



REGIONAL GEOGRAPHY

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ASIA

J. B. REYNOLDS



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Regional Geography

ASIA

BY

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AND NORTH ITALY'



LONDON

ADAM AND CHARLES BLACK

1908

IS9
R4

GENERAL PREFACE.

IN the first part of this little book an attempt has been made to give students a grasp of those important physical facts in accordance with which countries have been divided into 'natural regions,' and in the second part to show the influence of the physical features of such areas on the life of mankind. Special attention has, therefore, been paid to the relief of the land and to climate.

The orographical maps on pp. 7, 77, and 95 have been constructed after the series of hand maps published by the Diagram Company, and I must express my gratitude to that company for their kind permission for their reproduction. For the map illustrating the geological structure of Asia on p. 11, and for those showing the distribution of rainfall, I owe my thanks to Mr Herbertson, Reader of Geography at Oxford, to whose writings I am also indebted for much concerning the demarcation of the various natural regions which I have adopted. To facilitate the study of climate, some statistics have been inserted (see pp. 122 and 123) for purposes of reference and comparison.

The economic aspect of the subject has been kept well in mind, and it is hoped that the many views of important productions, and the maps illustrating the distribution of the same, will prove a useful feature in the book, while the diagrams given on pp. 125-127 should help students to acquire some sense of proportion. In reference to this branch of the subject I must acknowledge the help I have derived from the 'Handbook of Commercial Geography,' by Mr. G. G. Chisholm, the Atlas of the World's Commerce, by Bartholomew, and the 'Statesman's Year-Book' for 1908.

Other works which I have found useful for the description of various regions, and which students would do well to consult for further information] than can be given in a text-book of this size, are: 'From the North Pole to the Equator,' by Brehm; the 'Historical Geography of the Holy Land,' by G. A. Smith; the 'New Imperial Gazetteer of India'; the volume on 'India,' by Sir T. Holdich, and on 'The Far East,' by Mr. Little, of the series entitled 'Regions of the World'; and the volume on 'Asia,' in the series of 'Descriptive Geographies,' by F. D. and A. J. Herbertson.

The book will be found to contain sufficient information, with regard to the area described, for candidates for geographical examinations of the standard of London Matriculation, and is well adapted for the use of students in the upper forms of schools and in Pupil Teacher Centres.

In conclusion, I have to thank Mr. G. G. Chisholm, M.A., B.Sc., Lecturer in Geography in the University of Edinburgh, for kindly revising the book, and making several valuable suggestions.

J. B. R.

CONTENTS

ASIA—	PAGE		PAGE
BOUNDARIES - - -	5	EASTERN TURKISTAN - - -	72
CONFIGURATION AND STRUCTURE	10	MONGOLIA - - -	72
RIVER SYSTEM - - -	17	MANCHURIA - - -	74
CLIMATE - - -	19	KOREA - - -	75
VEGETATION - - -	24	CHINA - - -	75
FAUNA - - -	27	NORTHERN - - -	76
POPULATION - - -	30	MIDDLE - - -	82
		SOUTHERN - - -	86
ASIATIC RUSSIA—		JAPAN - - -	88
THE TUNDRA - - -	36	INDIA—	
THE FOREST - - -	38	THE NORTHERN RANGES - -	94
EASTERN SIBERIA - - -	40	THE NORTHERN PLAINS - -	97
WESTERN SIBERIA - - -	42	THE SOUTHERN TABLELAND -	104
THE STEPPES - - -	42	CEYLON - - -	108
WESTERN TURKISTAN - - -	44	INDO-CHINA - - -	112
TRANS-CAUCASIA - - -	47	MALAY PENINSULA AND EAST INDIES -	116
TURKEY IN ASIA—		STATISTICS <i>RE</i> —	
ASIA MINOR - - -	50	CLIMATE - - -	122
SYRIA - - -	52	AREA AND POPULATION OF	
MESOPOTAMIA - - -	56	COUNTRIES - - -	124
ARABIA - - -	60	TRADE - - -	125
THE PLATEAU OF IRAN - - -	65		
TIBET - - -	69		

LIST OF MAPS AND DIAGRAMS

ASIA—	PAGE	TURKEY IN ASIA (<i>continued</i>)—	PAGE
OROGRAPHICAL - - -	7	ASIA MINOR, ECONOMIC - -	51
GEOLOGICAL - - -	11	PALESTINE, OROGRAPHICAL -	53
RIVER SYSTEM - - -	17	SOUTH-WEST ASIA, CLASSICAL -	59
ISOTHERMS, JANUARY - -	18	THE FAR EAST—	
" JULY - - -	19	OROGRAPHICAL - - -	77
ISOBARS, JANUARY - - -	20	POLITICAL AND ECONOMIC -	79
" JULY - - -	21	ENVIRONS OF CANTON - -	87
RAINFALL, ANNUAL - - -	23	INDIA—	
" DECEMBER - - -	25	OROGRAPHICAL - - -	95
" JULY - - -	25	GEOLOGICAL - - -	99
VEGETATION - - -	27	PHYSICAL AND POLITICAL -	101
ZOOLOGICAL PROVINCES -	29	ENVIRONS OF BOMBAY - -	107
POPULATION - - -	31	ECONOMIC - - -	110
ASIATIC RUSSIA—		INDO-CHINA AND EAST INDIES—	
POLITICAL AND ECONOMIC	37	POLITICAL AND ECONOMIC -	112
TURKEY IN ASIA—		DIAGRAMS SHOWING PRODUCTION OF	
POLITICAL AND ECONOMIC -	49	VARIOUS ARTICLES - -	125-127

LIST OF ILLUSTRATIONS

PAGE	PAGE
SUEZ CANAL - - -	9
PAPANDAJAN - - -	13
FUJI-YAMA - - -	15
TAPIR - - -	29
CHINESE BOY - - -	33
GREAT WALL OF CHINA - -	35
SAMOYADS - - -	39
SIBERIAN PEASANTS - - -	41
KIRGHIZ ENCAMPMENT - -	45
PETROLEUM WELLS, BAKU -	47
MOSQUE OF OMAR - - -	57
CAMEL CARAVAN IN THE DESERT	61
MOUNT DEMAVEND - - -	67
SHEEP CARRYING GRAIN - -	69
YAK CARAVAN - - -	71
COOLIES CARRYING TEA - -	73
CAMEL CARAVAN, PEKING - -	81
RICE CULTURE, CHINA - -	83
HANKOW - - -	85
RICE CULTURE, JAPAN - -	89
BAMBOO FOREST - - -	90
GATHERING TEA, JAPAN - -	91
TEMPLE AT KYOTO - - -	93
INDIARUBBER-TREE - - -	97
THE TAJ MAHAL - - -	103
BENARES - - -	105
PEPPER PLANTATION - - -	107
COCO-NUT PLANTATION - -	109
BUDDHA - - -	111
ELEPHANT HAULING LOGS -	113
PAGODA, RANGOON - - -	115
BANGKOK - - -	116
RHINOCEROS - - -	117
HUSKING RICE - - -	117
MALAY HOUSES - - -	119
NUTMEGS - - -	120
SAGO PLANTATION - - -	121



ASIA.

THE BOUNDARIES OF ASIA, AND THEIR INFLUENCE ON HISTORY.

THE mainland of Asia lies entirely north of the equator, and is bounded by the Arctic, Pacific, and Indian Oceans on the north, east, and south respectively. On the south-east it is linked to Australia by the East Indies, and on the south-west to Africa by the isthmus of Suez. On the west it is continuous with Europe.

The European Boundary.—Although, for historical reasons, Europe and Asia are regarded as separate continents, it is well to realize that the present political division is purely artificial; for even the Urals do not form an important barrier to communication, and cease, moreover, about 350 miles north of the Caspian. Through the gap thus left, Asiatic nomads have invaded Europe from time to time; and these inroads have been facilitated by the fact that the grasslands of Southern Siberia are continued across Southern Russia and the Danubian plains. By this route the Huns entered Europe in the fifth century, and the Mongolo-Tatars in the thirteenth. The latter established themselves in Southern and Western Russia, and though their dominion had been greatly reduced by the close of the sixteenth century, the Mongol Khanate of the extreme south-west, which had become a Turkish power, was not conquered till 1783. Meanwhile, during the sixteenth and seventeenth centuries the Russians had spread eastward to the Pacific, and thus acquired the whole of North Asia.

The **Caucasus Mountains**, which may be regarded as forming the boundary between Europe and South-West Asia, although the political frontier lies to the south, are high and as yet uncrossed by any railway. About their mid-point, however, a road leads over the **Dariel Pass**, at a height of more than 4,000 feet; and a railway runs between the eastern end of the range and the Caspian. In spite of this barrier, the region bounded by the Red Sea, Mediterranean, Black Sea, Caspian, and Persian

Gulf, has for centuries been in close touch with Europe on account of important trade routes across it, and its proximity to the Balkan Peninsula, from which it is separated only by the Strait of Bosphorus and the Dardanelles.

Further, between Asia Minor and Greece lie many islands which make communication easy ; and thus the Greeks, some centuries before the birth of Christ, succeeded in planting colonies along the shores of Asia Minor. In a later period the Persians conquered Syria and Asia Minor, and invaded Greece ; and still later, in the fourth century B.C., a Greek King of Macedonia, called Alexander the Great, took an army across the Dardanelles and defeated the Persians. He advanced into India, but finally died at Babylon. His expedition led, however, to the establishment of Greek dynasties in Syria and Asia Minor, and to Greek influences permeating all the important cities of this area.

The next European invaders were the Romans, who held Asia Minor and Syria at the time of the birth of Christ, and for some centuries afterwards. In the seventh century, however, the power of the Saracens arose, and they spread eastward from Arabia to Persia, and westward along North Africa and into Spain. They were the followers of Mohammed, who declared himself to be the Prophet of God, and by their persecution of Christian pilgrims to Jerusalem roused western Christendom to unite in the Crusades. These Crusades stimulated the Asiatic trade with Europe in silks, jewels, spices, and drugs, the goods passing through this area to ports on the Mediterranean, or up the Red Sea and across to Alexandria, near the mouth of the Nile.

On the decline of the Saracens another Mohammedan power rose into prominence in South-West Asia—namely, that of the Ottoman Turks. These entered the Balkan Peninsula in the fourteenth century, and took Constantinople in 1453. It was from these Turks that Turkey received its name ; and as a result of this invasion Constantinople became the residence of the Sultan, who rules over Turkey in Asia as well as in Europe.

The African Boundary.—From Africa, Asia is separated by the Gulf of Aden and the Red Sea ; but the Isthmus of Suez forms a bridge between the two. In early historic times there was constant communication between South-West Asia and Egypt, sometimes of a peaceful and sometimes of a warlike nature, the route commonly followed passing through the isthmus and along the maritime plain of Palestine. As already stated, the Saracens utilized this route ; while in the sixteenth



1. Under 600. 2. 600-3,000. 3. Over 3,000. Height in feet.
 = Hundred-fathom line.

ASIA: OROGRAPHICAL. (After the Diagram Co)

century the Turks, by taking Egypt, consolidated their dominion along the shores of the Eastern Mediterranean.

In recent times the United Kingdom has virtually supplanted Turkey as the ruling Power in Egypt. This country also owns most of the shares in the **Suez Canal**, which was opened in 1869. This canal is free to ships of all nations on payment of a toll; but about three-fifths of the vessels that pass through it are British. This is because so much of the shipping of the world is in British hands. To protect this route to the East the British have established a fortified coaling-station near Aden, near the southern entrance to the Red Sea. The British also possess the Isle of Perim in the Strait of Bab-el-Mandeb, British Somaliland on the south of the Gulf of Aden, and the Isle of Socotra to the east.

The Indian Ocean.—This ocean is divided by India in the north into the Arabian Sea and Bay of Bengal, and is bounded by Africa on

the west and the East Indies and Australia on the east. The winds which prevail over the Arabian Sea and Bay of Bengal change with the season, and blow from north-east in winter and south-west in summer, and in changing affect the direction of the ocean currents. Very early in the Christian era a Greek navigator noticed the seasonal character of these winds, called monsoons, and utilized them in voyages between Southern Arabia and India. In the Middle Ages the Mohammedan Arabs, who were great traders, established many commercial stations along the African coast, and from that time to the present have constantly imported slaves and various products thence. Zanzibar is still an Arab sultanate, though now under British protection.

South of Africa is the sea-route between the Atlantic and Indian Oceans, which was first traversed by **Vasco da Gama** on his voyage to India 1497-1498. His ship was the precursor of many others, mainly Portuguese, during the fifteenth and sixteenth centuries, and later Dutch, French, and British. Though the Portuguese obtained possession of many ports round the Indian Ocean, their conquests are now only represented by Goa, Daman, and Diu in India, and part of Timor in the East Indies. The British, Dutch, and French started trading companies, which gradually acquired land—the Dutch mainly in the East Indies, the British and French in India and Indo-China. Clive's victories in the eighteenth century reduced the French possessions in India to only a few towns, and later the authority of the British East India Company was transferred to the Crown. Both French and British hold lands in Indo-China; but the important route via the Strait of Malacca to the Pacific is controlled by British settlements in the Malay Peninsula, and by the fortified coaling-station of Singapore.

The Australian Boundary.—There is no historic record of communication between Australia and Asia till within the last few centuries; and even to-day it is but slight. Long ages ago there probably existed a land connection by which mammals entered Australia; but the curious nature of its fauna points to a long period of isolation. The change from Asiatic to Australian fauna apparently takes place between the Isles of Bali and Lombok, just east of Java; but, for reasons of physical structure, the division between the continents is best regarded as lying east of Timor and the Moluccas and west of New Guinea.

The Pacific Ocean.—This ocean was so named by **Magellan**, on account of its calmness when he crossed it in 1520-1521, after passing



SUEZ CANAL.

through the Strait in South America that bears his name. He sailed to the East Indies, and there met his death in a fray with the natives of one of the Philippines; but one of his ships sailed homeward by the western route, and was thus the first to circumnavigate the world. Magellan sailed under the flag of the Spaniards, who, following in his steps, conquered the Philippines, and held them until 1898, when the United States captured them.

The Pacific is so wide that it seems to have prevented communication between Asia and North America until within the last three centuries, save where the continents are separated merely by the **Bering Strait**, which is no more than thirty-six miles across and very shallow. It is even possible that at one time this strait did not exist, and that by this route animals and men crossed from the Old World to the New. In some respects the American natives bear marked resemblance to the Mongolian races of Asia. The strait takes its name from a Dane who was employed by the Russian Tsar, Peter the Great, to determine the north-eastern limit of Siberia, and in so doing sailed through the passage in 1728.

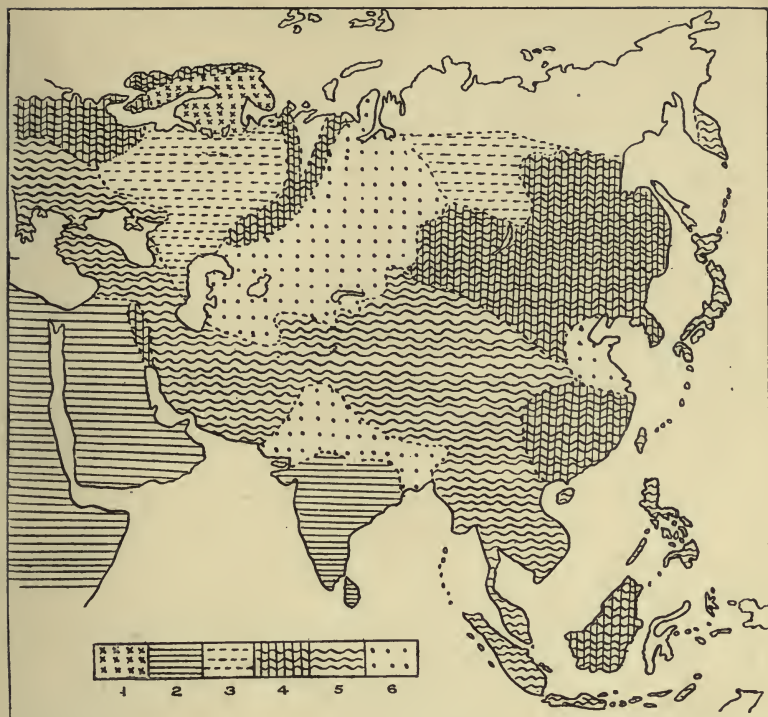
There are now many regular lines of steamers crossing the Pacific, and the number of Chinese settlers in North America bears witness to the ease of communication between that continent and Asia.

The Arctic Ocean.—The shores of this ocean are ice-bound for about nine months of the year. On several occasions during the sixteenth and seventeenth centuries the British and Dutch sought for the North-East Passage—*i.e.*, a sea-route to South-East Asia via this ocean. Owing to the difficulties of navigation, it was not until 1878-1879 that a Swedish explorer—**Nordenskjöld**—succeeded in taking his ship, called the *Vega*, by this route; and no one has made the voyage since.

CONFIGURATION AND STRUCTURE.

Size.—Asia is the largest of the continents, and its area is equal to four and a half times that of Europe, or about a third of the total land-mass of the world. From its most northern cape to the south of the Malay Peninsula it extends over seventy-six degrees of latitude, or 5,350 miles.

Shape.—The mainland of Asia has a roughly quadrilateral form, plus the three large southern peninsulas of Arabia, India, and Indo-China, and the three smaller ones of Asia Minor, Korea, and Kamchatka. The east and south-east coasts are fringed with mountainous islands.



1. Areas composed of ancient archæan rocks. 2. High plains composed of unfolded sedimentary rocks. 3. Lowlands composed of unfolded sedimentary rocks. 4. Highlands and Lowlands mainly composed of rocks folded in ancient geological periods. 5. Plateaux and ranges mainly composed of rocks folded in recent geological epochs. 6. Plains mainly composed of unfolded recent deposits.

N B.—The structure of areas left blank is unknown.

ASIA: STRUCTURAL DIVISIONS. (After Herbertson.)

Relief.—The mountain system of Asia can be divided into (1) the ranges that traverse the above-mentioned islands. (2) The belt of plateaux and mountain ranges which extends right across the middle of the continent, and broadens out in the east to include all between the Bering Strait and the Strait of Malacca. This belt forms a serious barrier to communication between the triangular plain which occupies West Turkistan and most of Siberia in the north, and the river plains of Mesopotamia, Northern India, and Southern Indo-China. It also separates both northern and southern lowlands from the plains of Manchuria and China proper in the east. A striking feature of this belt is the east to west direction of a series of ranges which traverse it from the Caucasus Mountains to the Tsin-ling Mountains of North China. The area is best subdivided into (a) the southern and western plateaux and ranges, and

(b) the north-eastern and eastern highlands and ranges. (3) The peninsulas of Arabia and India are occupied by tablelands, which differ in structure from the central plateaux.

The Eastern Insular Ranges.—These are due to foldings of the earth's crust, though many of the mountains have been built up by volcanic action. The ranges were probably formed very gradually, and though comparatively recently, as geologists reckon time, long before men appeared on the earth. From the fact that they contain so many active volcanoes, and that the whole region is subject to earthquakes, we may infer that the district is still in an unstable condition, and subterranean movements still taking place. Where ranges have been formed by folding, it is sometimes possible to see how the layers of rock, called strata, have been bent upwards or downwards; but, owing to the destructive action of water, wind, and ice, they have generally been so much worn down and altered that the original upfolds no longer form the ranges, nor the downfolds the valleys. Sometimes the strata cannot resist the pressure of internal forces, and are broken across. In this case one side is generally lowered below or raised above the other, and such a displacement is called a fault. The formation of even a small fault would have the effect of jarring all the rocks in the vicinity; and as rocks are slightly elastic, the waves of motion set up by the shock might be felt as an earthquake at a considerable distance.

Earthquakes are, in fact, only tremblings of the earth's crust, and, though they often accompany the formation of faults and volcanic activity, do not in themselves involve much actual disturbance in the surface of the land. The terrible loss of life they sometimes cause is mainly due to falling buildings or to the formation of great sea-waves, which overwhelm vessels and inundate low coastal regions. In Japan very slight earthquakes are of daily occurrence, and no year passes without some of a more serious type.

Active volcanoes exist in Kamchatka, the Kurile Isles, Japan, Formosa, the Philippines, Moluccas, Java, Sumatra, and the Andaman Isles. It is the continuity of this chain of volcanoes that makes it well to include in Asia all these groups, and also Borneo and Celebes, which, though not volcanic, are thus enclosed by the volcanic girdle.

Volcanoes are often characterized by having cone-like summits, because the ashes and lava ejected from the shaft, or hole in the earth, naturally tend to fall in a roughly regular manner around the opening.

Diagram of an upfold section on line C D.

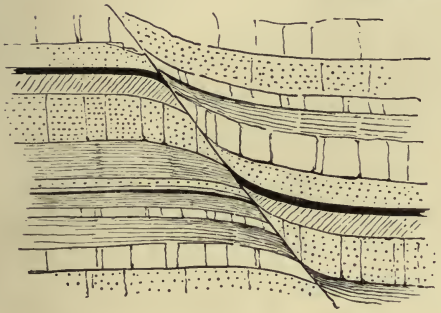
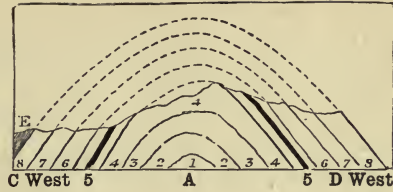


Diagram of a fault where the strata on each side have been bent along the plane of the fault; one side being depressed, and the other dragged upwards by the strain.



From Del Mar's 'Around the World Through Japan.'

CRATER OF PAPANDAJAN, JAVA.

This is situated in East Java, and is 8,500 feet above sea-level. The crater is dotted over with apertures, some emitting jets of steam and hot water, some sulphurous vapours, and some boiling mud.

One of the most perfect examples of a conical volcano is Fuji-yama, in Japan ; but it has not been active for 200 years. Sometimes the shape of a mountain is altered by volcanic explosions, as was the case with the volcano Krakatao, situated on a small isle between Java and Sumatra. In consequence of an eruption here in 1883, two-thirds of the isle were blown away. The explosive nature of such eruptions is due to the pressure of steam underground, which suddenly becomes sufficiently powerful to blow away any material that has choked up the shaft, and to force an exit. With these fragments of rock, steam and gas often issue in large quantities, and afterwards ashes are ejected, and lava—*i.e.*, melted rock—overflows the crater.

The Southern and Western Ranges and Plateaux.—These ranges are also due to folding of the earth's crust in recent geological times, though few contain volcanoes. All the ranges are steeper on their southern than on their northern sides, and most consist of parallel ridges and valleys. The plateaux must have been raised by gradual earth-movements in the past, since which time they have been much worn down by natural agencies. There are two places where the belt of plateaux contracts, and to which ranges seem to converge—*i.e.*, at the plateau of Armenia and at the Pamirs.

The Plateau of Armenia.—This lies partly in Russian, partly in Turkish, and partly in Persian territory, and seems to culminate in the volcano Mount Ararat, where these dominions meet. Towards it converge the four following ranges : (1) The Pontic Range, which bounds the plateau of Asia Minor on the north ; (2) the Taurus and Anti-Taurus Ranges, which bound the same on the south-east ; (3) the Elburz Mountains, which bound the plateau of Iran on the north ; (4) the Zagros Mountains, which bound the same on the south-west.

The Pamirs.—These stand at the meeting-place of the dominions of Russia, China, India, and Afghanistan. They are a series of lofty and broad valleys running east and west, which are separated and bounded by still higher, snow-clad mountains. The following six ranges converge towards this region : (1) The Tian Shan, which forms the northern boundary of the plateau of Eastern Turkistan ; (2) the Kuenlun, which bounds the same on the south and the far higher plateau of Tibet on the north ; (3) the Karakorum, which crosses the plateau of Tibet in the west ; (4) the Himalayas, which form the southern boundary of the same ; (5) the Hindukush, which forms part of the northern boundary of the



Photographed by Farsari, Yokohama.

From 'Around the World Through Japan,' by Walter Del Mar.
FUJI-YAMA AND LAKE HAKONE, JAPAN.

plateau of Iran ; (6) the Hala and Sulaiman Ranges, which form the eastern boundary of the same.

The plateau of Tibet is the highest of the plateaux, having considerable areas with an average elevation of nearly three miles. On the east it divides into a number of ranges, which separate the gorges formed by the upper courses of the rivers of South-East Asia. These ranges turn southwards, and traverse the Indo-China Peninsula ; one forms the backbone of the Malay Peninsula, while the most westerly range seems to be continued southwards in the Andaman and Nicobar Islands, thus linking the ranges of the mainland with those of the East Indies.

The North-Eastern highlands and ranges are of older formation than those already described, and have therefore been longer exposed to erosion, and are, on the average, lower. They can be divided into—(1) The mountainous area around Lake Baikal, composed of the Yablonoi and other highlands to the east, and extending to the Altai Range in the south-west. Between the Altai Mountains and the Tian Shan is the **Dzungarian Gap**, which is traversed by the Irtysh tributary of the Ob, and forms an important route between Mongolia and Siberia. (2) The plateau of Mongolia, flanked on the east by the Khingan Range, and stretching south to the mountains of Northern China.

The Eastern ranges comprise : (1) The Stanovoi Mountains, running north of the Amur River to Bering Strait, with a western branch to the mouth of the Lena ; (2) the ranges east of the Lower Amur and in Korea, which bound the plain of Manchuria on the east ; (3) the ranges in Southern China, which mainly run east and west.

The Tablelands of Arabia and Southern India.—These tablelands are composed in part of basalt, which, in the form of lava, must once have issued from great fissures in the earth, though no trace of these remains. In India, the other prevailing rocks which form the tableland are crystalline in structure, as gneiss, and of archæan—*i.e.*, very ancient—age. In Arabia large areas are composed of sandstones and limestones, and, on account of the arid climate, much of the surface is either bare rock or covered with gravels and sand.

The straight form of the lines bounding both these tablelands is due to faulting long ago. The Red Sea occupies the floor of a 'rift,' or depressed region, bounded by two nearly parallel lines of faulting ; and a similar smaller rift to the north-west is occupied by the River Jordan and the lakes in its course.



- | | |
|--------------------------------|----------------------------------|
| 1. Land drained to the Arctic. | 4. Land drained to the Atlantic. |
| 2. " " " Indian Ocean. | 5. " " " Mediterranean |
| 3. " " " Pacific. | 6. Areas of inland drainage. |
- = Canals. The darker portions of the rivers are the parts which are navigable.

ASIA: RIVER SYSTEM.

RIVER SYSTEM.

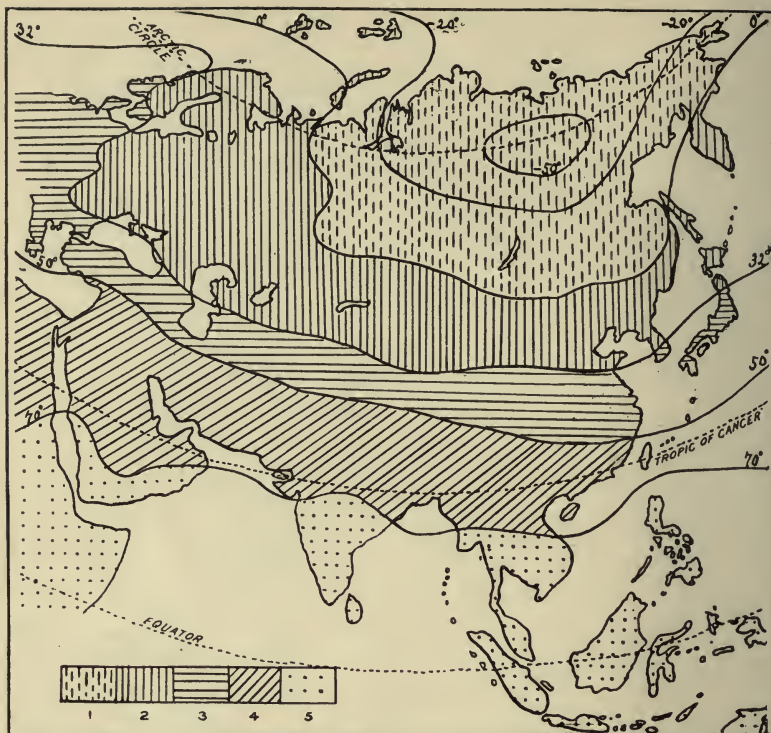
The rivers of Asia may be classified as follows :

1. Those flowing into the Mediterranean and Black Sea

—These are relatively short and torrential in character, and therefore of no use for navigation.

2. Those flowing into the Indian and Pacific Oceans.—

These include the Euphrates, Tigris, Indus, Ganges, Irawadi, Salwin, Mekong, Yangtse, Hwang-ho, and Amur. As these rise on the margins of the central plateaux, they are long and well supplied with water from the snows on the bordering ranges. Hence most are navigable for considerable distances, and form important routes into the interior ; but an exception must be made of the Hwang-ho. They are also in many cases useful for irrigation, while the soil they bring down in great quantities has created fertile alluvial plains and deltas.

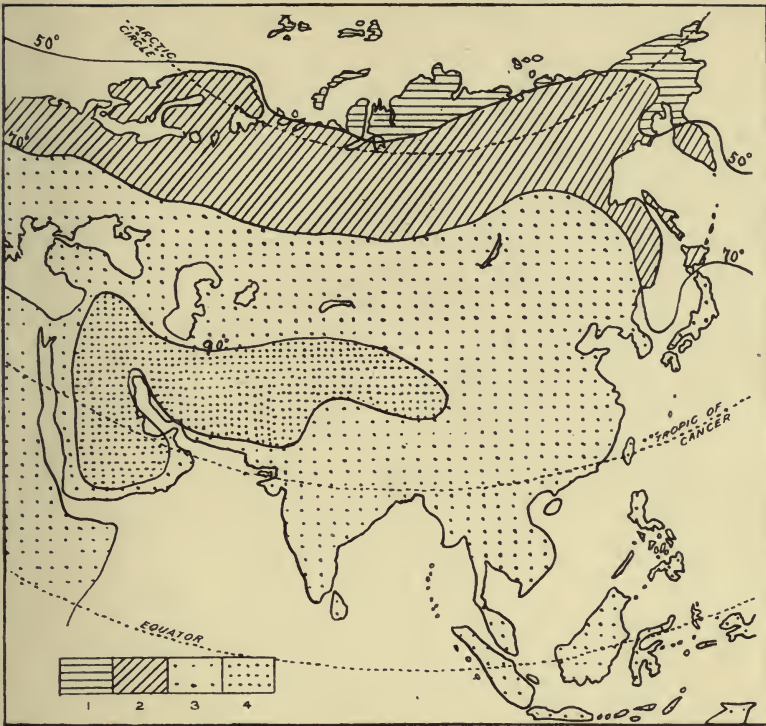


1. Under 0°. 2. 0°-32°. 3. 32°-50°. 4. 50°-70°. 5. Over 70°. Temperature in degrees Fahrenheit.

ASIA: MEAN ISOTHERMS FOR JANUARY. (After Buchan.)

3. Those flowing into the Arctic Ocean.—The most important of these are the Ob, Yenisei, and Lena; but as all are frozen for most of the year and their mouths for at least ten months, and as they flow through sparsely peopled regions, there is little traffic carried on by them. As the ice in their upper channels melts before that in their lower courses, floods are caused and convert wide areas into swamps.

4. Those flowing into inland seas and lakes, and those which disappear after a shorter or longer course. Regions traversed by such rivers are called 'areas of inland drainage.' The most important rivers of this class are : the Ural, which flows into the Caspian; the Syr and Amu, which flow into the Sea of Aral; and the Tarim. Though these are navigable for parts of their courses, the last three are chiefly useful for irrigation. Many of the rivers of Arabia and the central plateaux are merely wadis—i.e., channels that are only full of water for a short season of the year.



1. Under 50°. 2. 50°-70°. 3. 70°-90°. 4. Over 90.

Temperature in degrees Fahrenheit.

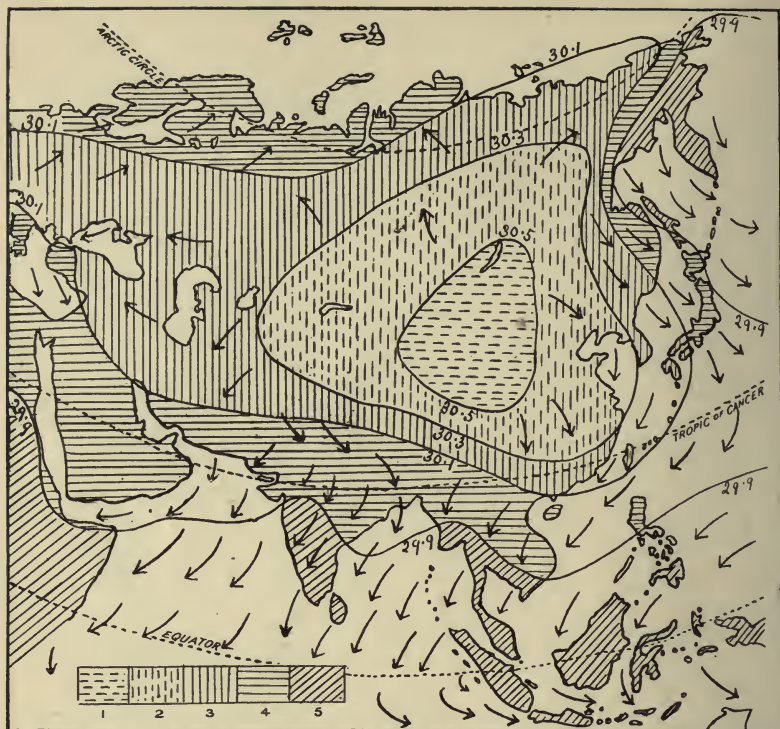
ASIA: MEAN ISOTHERMS FOR JULY. (After Buchan.)

TEMPERATURE.

The temperature of any place depends on the following circumstances :

1. **On the season ;** for since the earth moves round the sun with its axis inclined, the sun's rays fall more vertically north of the equator in our summer, and south of it in our winter. These seasonal changes are naturally but slightly marked in the torrid zone ; while in polar regions the sun never sets during part of the summer, and full daylight never occurs during part of the winter.

2. **On the latitude ;** for the sun's rays fall with increasing obliquity towards the poles, and must penetrate an increasing thickness of atmosphere. The effect of latitude on temperature over a large area like Asia is very marked, and can be seen from the figures indicating degrees of temperature attached to the isotherms—or lines drawn through places which have the same mean temperature for the same period—on the maps on pp. 18, 19.

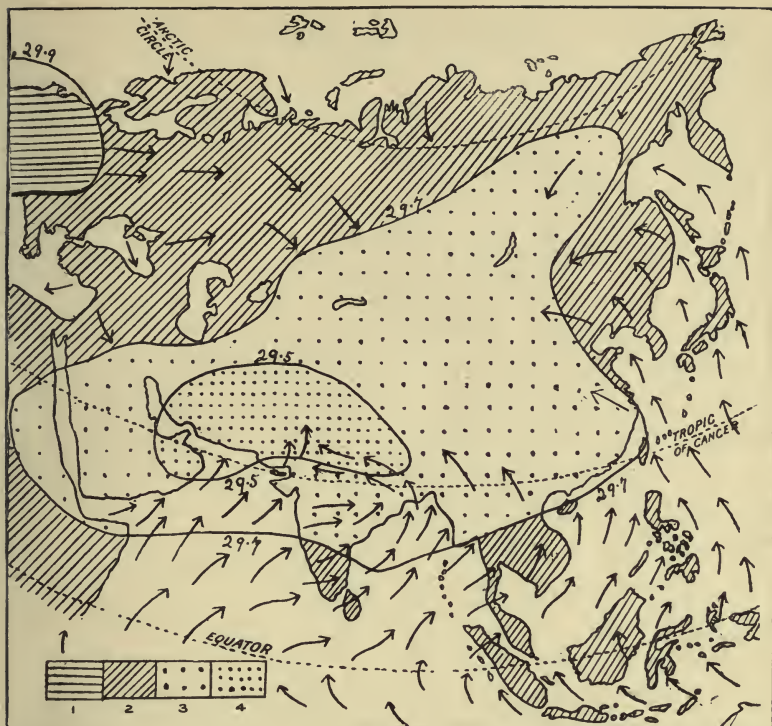


1. Over 30.5. 2. 30.5-30.3. 3. 30.3-30.1. 4. 30.1-29.95. 5. 29.95-29.7. Pressure in inches.
 —> = Direction of prevailing winds.

ASIA: MEAN MONTHLY ISOBARS AND WINDS FOR JANUARY. (After Buchan.)

3. On altitude. The effect of this is not shown in the maps relating to temperature, but it amounts to a fall of about one degree for every 270 feet of vertical ascent. In the case of gently rising plains and of broad plateaux, the fall is much less than this; though if the plateaux be very high, as in Tibet, the result is still very marked. The direction of a range will also affect the temperature of a given area, on account of the shelter afforded from winds from certain quarters. The central plateaux and ranges of Asia, for example, partially protect the northern plains of India from cold winds; but they also prevent southern oceanic winds from reaching far inland.

4. On the direction of the prevailing winds. A good example of this is the warmth of North-West Europe, which is exposed to the south-west anti-trade winds, compared, latitude for latitude, with the east coast of Asia. The same is true in a slight degree of North-West Asia (see p. 18). Moreover, it is only indirectly, through its influence on the winds, that the sea can affect the temperature of places inland. Places



1. 30.1-29.95. 2. 29.95-29.7. 3. 29.7-29.5. 4. Under 29.5. Pressure in inches.
 —>=Direction of prevailing winds.

ASIA: MEAN MONTHLY ISOBARS AND WINDS FOR JULY. (After Buchan.)

exposed to sea-winds, for example, experience a smaller **range of temperature**—i.e., amount of difference between their maximum and minimum temperatures—than those exposed to land winds, because water changes its temperature more slowly than land. There is, therefore, a very wide range of temperature in places in the interior of Asia, which, on account of the size of the continent and arrangement of the ranges, is cut off from sea-winds. The same is also true in a modified degree of places on the east coast in the temperate zone, because these are exposed in winter to more or less northerly land winds.

Winds are also warmed or chilled by ocean currents over which they pass, and carry their raised or lowered temperature inland. Thus Japan gains much from the warm **Kuro-shiwo** current, which flows northwards along its eastern coast; while a branch of the same, penetrating the Sea of Japan, strikes the north-west coast of the main island. On the other hand, the north-eastern coast of Siberia is affected unfavourably by the cold current that flows past it from the Bering Strait.

WINDS AND RAINFALL.

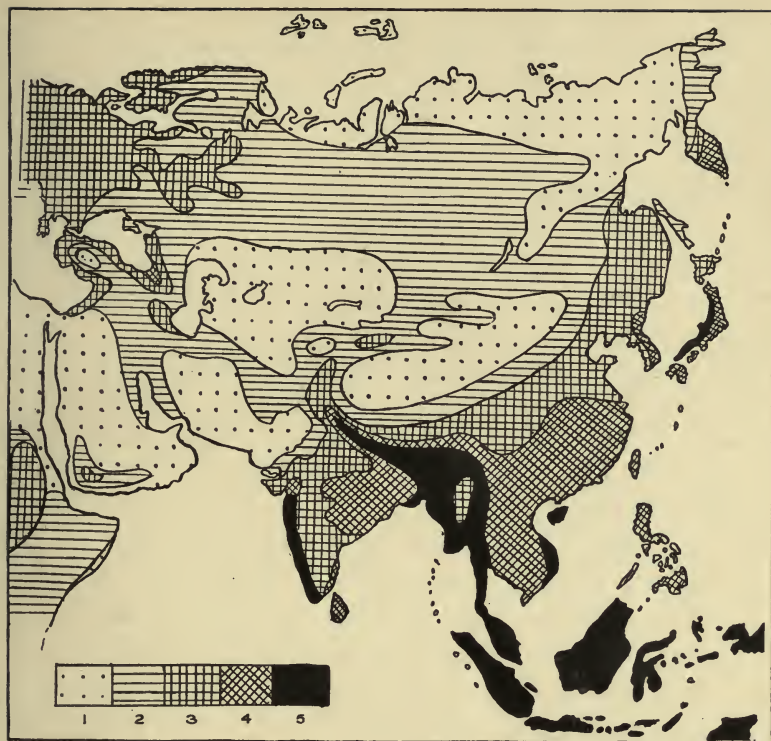
Winds blow from areas of high or great atmospheric pressure to areas where this pressure is less ; and since there are belts of relatively high pressure over the oceans about the latitude of 30° north and south of the equator, winds blow outwards from these areas towards the equator and the poles. Owing to the rotation of the earth, however, they are deflected to the right hand of their path of motion in the northern hemisphere, and to the left in the southern. Therefore north-east and south-east winds, called **trade winds**, blow respectively north and south of the equatorial belt, where calms or variable winds prevail ; and south-west and north-west winds, called **anti-trade winds**, blow north and south of the belts of high pressure, where also calms and variable winds occur. All these winds shift somewhat with the seasons, blowing a little further north in our summer than in our winter.

The above arrangement of winds is partly upset, and especially in the case of Asia, by the fact that land changes its temperature more rapidly than water. Therefore, since hot air is lighter than cold, a land-mass becomes in summer an area of low pressure, towards which winds will blow ; while in winter it becomes an area of high pressure, and winds tend to blow outwards. These winds which change with the season are called **monsoons**.

Turning to Asia, we find that it is affected by the following winds :

1. **The South-West Anti-Trade.**—This is the prevailing wind over North-West Europe, to which it brings abundant moisture from the Atlantic ; but in crossing Europe it loses most of its strength and moisture before reaching Asia. It is only in winter that this wind blows with sufficient strength and far enough south to bring rain to the Mediterranean region, and thus to Asiatic Turkey and the plateaux of Iran.

2. **The North-East, North and North-West Monsoons.**—These are due to the area of high pressure on the mainland, from which winds blow outward, and, owing to the revolution of the earth, are deflected to the right hand of their path of motion. They prevail in winter over Southern Asia and the Indian Ocean, where they are practically the same as the North-East Trade-Wind, as well as over Eastern Asia, where their general direction is north, or north-west. The wind is also deflected to the north-west across the plains of North India, on



1. Under 10. 2. 10-20. 3. 20-40. 4. 40-80. 5. Over 80. Rainfall in inches.

ASIA : MEAN ANNUAL RAINFALL. (After Herbertson.)

account of the physical formation of the Ganges Valley. These winds are cold and dry save in those regions reached after passing over seas—as the South-East coast of India, North-East Ceylon, in Western Japan, Anam, and the East Indies.

3. The South-West and South-East Monsoons, which prevail in summer over the Indian Ocean, the peninsulas of India and Indo-China, and Eastern Asia. They are due to a hot area of low pressure over Baluchistan, towards which winds tend to blow ; but are deflected owing to the rotation of the earth. The wind is also deflected to the south-east by the Ganges Valley. They come laden with moisture, and condensation is especially heavy on the slopes of, and in front of, the ranges opposed to their directions, since such barriers force them to rise, and thus grow cool by expansion, and by contact with the cooler upper layers of the atmosphere.

4. In the Bay of Bengal furious cyclones or hurricanes are sometimes experienced ; while in the Chinese Seas similar winds are known as **typhoons**. These are systems of low atmospheric pressure and small area, in which the pressure decreases rapidly towards the interior, and towards which winds blow violently in all directions. This inward motion, being deflected on account of the earth's rotation, creates a sort of whirl, which, in the northern hemisphere, moves in the direction opposite to that of the hands of a clock. Heavy rainfall accompanies these storms, as the air is always rising, and much damage to life and property is often wrought by their fury.

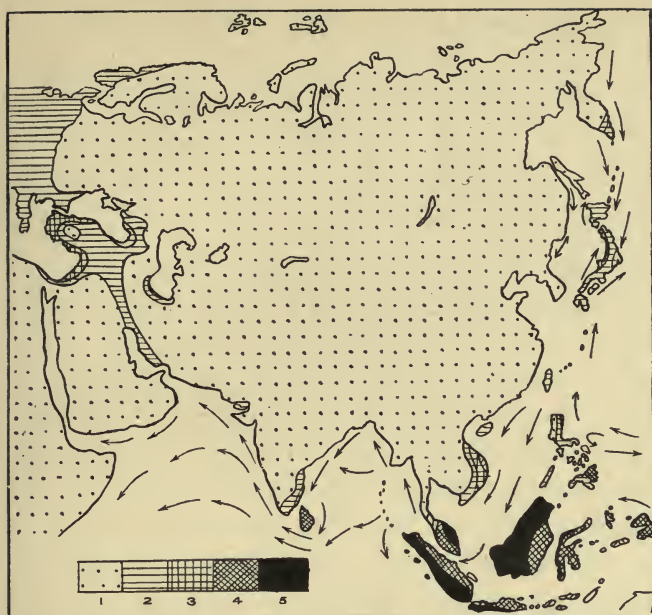
The areas of deficient rainfall in Asia are : (1) Districts which are so far inland, or so shut in by mountains, that the winds from the sea do not reach them, or have precipitated their moisture on their way. Such, for example, are the deserts of Gobi and West Turkistan. (2) Areas in the belt of the dry north-east trade wind, which do not receive ocean winds in summer, such as the desert of Thar in India, and the Iranian and Arabian deserts. (3) The northern regions, where the cold hinders evaporation, and hence limits the rainfall. What moisture is precipitated here falls partly in the form of snow, and this is deep in winter ; but about 10 inches of snow are, in volume of moisture, only equivalent to 1 inch of rain.

CLIMATE AND VEGETATION.

Vegetation depends chiefly on climate ; and from what has gone before we see Asia can be divided into the following climatic areas, each of which will have its characteristic vegetation :

1. **The frigid region, or tundras, in the north**, practically including the land within the Arctic Circle. Here the intense cold reduces vegetation to mosses, bushes, and stunted trees ; while much of the island of Novaya Zemlia is covered with an ice-sheet. Some of the few plants found in the Arctic regions occur also in other parts of Asia on high mountains (see p. 27).

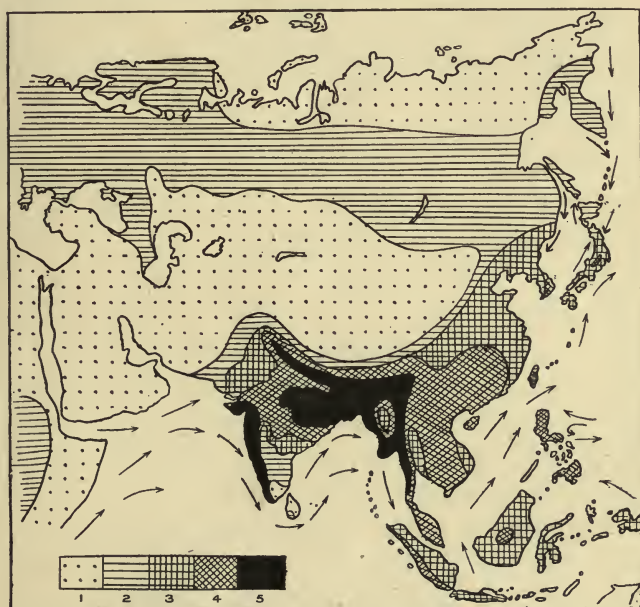
2. **The cool temperate region** south of the above area, where forests predominate. This includes the whole of Eastern Siberia, and Western Siberia to about latitude 57°. The most common trees are



1. Under 2. 2. 2-4. 3. 4-8. 4. 8-12. 5. Over 12. Rainfall in inches.

—> = Direction of currents. (After the Diagram Co.)

ASIA: MEAN MONTHLY RAINFALL FOR DECEMBER. (After Herbertson.)



1. Under 2. 2. 2-4. 3. 4-8. 4. 8-12. 5. Over 12. Rainfall in inches.

—> = Direction of currents. (After the Diagram Co.)

ASIA: MEAN MONTHLY RAINFALL FOR JULY. (After Herbertson.)

spruces, firs, pines, and larches in the north, poplars, birches, and other deciduous trees further south.

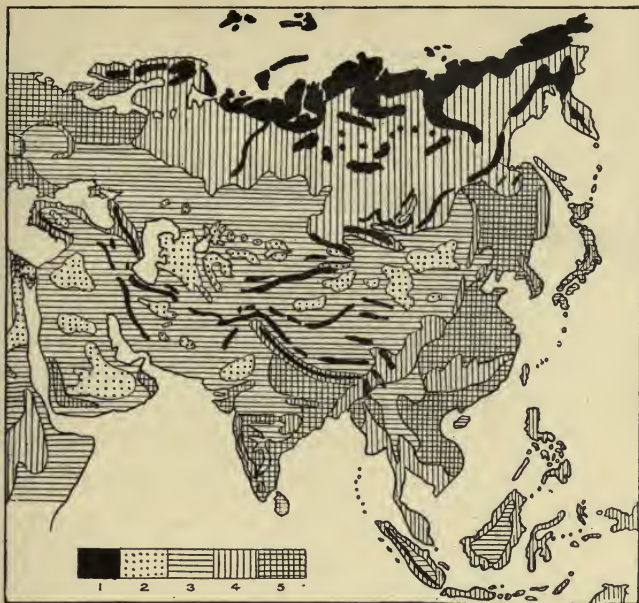
3. **The temperate lowlands, or Steppes**, of Western Siberia and Western Turkistan, where the rainfall occurs chiefly in early summer, and is scanty in parts. Here the natural vegetation is grass, but this is being supplanted by agriculture wherever the rainfall is adequate or irrigation possible.

4. **The plateaux of the interior**, including the tableland of Arabia and plain of Mesopotamia. These suffer from drought, and, save for a few favoured valleys where irrigation is possible, they are either barren or poor grasslands. The temperature is reduced by elevation, but differs considerably in different parts, and the seasonal range is great. The date-palm is important in Arabia and Southern Mesopotamia.

5. **The Mediterranean seaboard** is characterized by its mild, wet winters and hot, dry summers. Here vegetation has to withstand the summer drought; and hence the olive flourishes, as its thick-skinned leaves prevent the rapid evaporation of moisture. The same is also true of the fig, while the vine can obtain moisture from a great depth by means of its long root. Wheat is cultivated, as it can be sown in autumn, so as to benefit by the winter rains, and then be reaped in early summer. This type of climate and products also prevails to some extent over the western plateaux, though, on account of the inadequate rainfall, they also belong to Class 4.

6. **The Monsoon area**, embracing India, Indo-China, China, Korea, the plains of Manchuria, and the Japanese Isles. This region, with the exception of a few districts already mentioned, receives the bulk of its rainfall in summer, brought by warm oceanic winds, and is exposed in winter to relatively cold land winds. As the climate is favourable for agriculture, a large part of the area is under cultivation, the rest being occupied by forests, or mixed grass and woodland. The temperature, and therefore the productions, vary much with the latitude, but rice, tea, and cotton are characteristic crops throughout the greater part of the region. One of the most typical products of this area is the bamboo, while the coco-nut palm thrives in the south.

7. **The equatorial districts**, embracing the Malay Peninsula and East Indies. Here, on account of latitude and oceanic influences, the range of temperature is slight, and the average is high, but moderated by altitude in many parts. The rainfall is heavy and occurs at all seasons,



- 1 Tundra and Alpine flora.
2. Deserts.
3. Grasslands.
4. Temperate and tropical forests.
5. Mixed wood and grassland—largely cultivated.

ASIA : VEGETATION.

though it is generally heaviest about the period when the sun is highest. The districts are well supplied with forests, and yield such products as coco-nut, sago, rubber, and various spices. There are also important plantations of coffee, sugar, and tobacco.

FAUNA.

The land surface of the world has been divided into certain areas called zoological provinces, each province being characterized by the presence of a large number of similar native animals, and the absence of others. From the map on p. 29 it will be seen that, while Northern and Western Asia fall within the Palæarctic province, and Arabia into the Ethiopian, South-Eastern Asia constitutes the Oriental province, and a part of the East Indies lies in the Australian region.

The Palæarctic Province.—The southern limit of this is not really a line, but is formed by the belt of plateaux across Asia, which has constituted a barrier to the dispersal of animals. Although this is

the largest of the provinces, it does not contain a remarkable number of distinct native genera of mammals ; but one group that is much represented includes those hoofed animals of most use to man—the horse, ass, ox, camel, sheep, deer, goat, pig, etc. Most of these inhabit the steppes, but the reindeer lives on the moss of the frigid tundras, and the camel can find support on the few prickly plants and shrubs which grow in the deserts. A one-humped and a two-humped species of camel occur in Asia. The yak, which is used as a beast of burden in Tibet, is a kind of ox native to the central ranges.

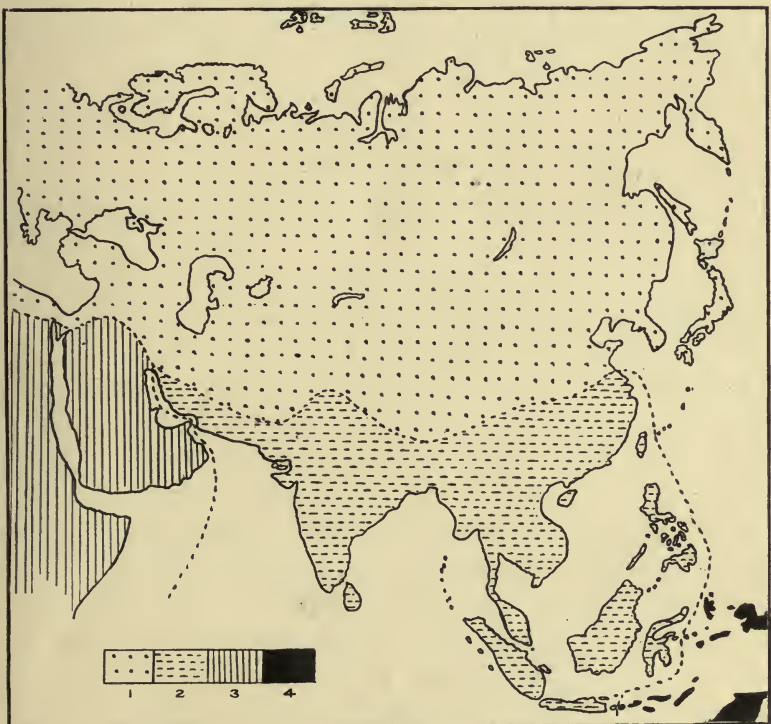
The carnivorous, or flesh-eating, animals are represented by the wolf, fox, polar and brown bears, lynx, and ounce—an animal distinguished from the leopard by its thick light fur. The tiger, although a typical inhabitant of the Oriental province, is also found in Persia, Turkistan, and Northern China ; while the leopard occurs in South-West Asia. There, too, the lion is still found, though it is essentially an Ethiopian animal, and is increasingly rare here. Some of these animals are hunted on account of their skins, but many of the most valuable furs are obtained from the squirrels, ermines, and beavers which inhabit the northern forests.

No elephants are now native to this province, but the remains of a gigantic species, known as the mammoth, have been found buried in the swamps of the tundras, and preserved by the ice. The ivory obtained from these remains has been an article of commerce for centuries, and is still procured in small quantities.

The Oriental Province.—This is characterized by a particularly rich and varied fauna, especially in the Malay Peninsula. It possesses a large variety of monkeys and the orang-outang, a species of the anthropoid apes, so called from their resemblance to man. The chief carnivorous animals in this region are the tiger, leopard, hyena, and bear ; other large native wild animals being the elephant, the tapir, and both the one-horned and two-horned species of rhinoceros. The elephants native to the Oriental province differ in some respects from those of the Ethiopian—among others, in having no tusks, or tusks of smaller average size, and thus they are less valuable as a source of ivory. They can, however, be domesticated, and are largely used as beasts of burden. The tapir is confined in Asia to the Malay Peninsula and Sumatra, and outside this area occurs only in South America. Another animal which in Asia is found only in the Malay Peninsula is the lemur, which in some respects



TAPIR.



1. Palæartic. 2. Oriental. 3. Ethiopian. 4. Australian.
 ASIA: ZOOLOGICAL PROVINCES. (After Sclater.)

resembles a small monkey, and is elsewhere found only in Africa, and there chiefly in Madagascar.

Many varieties of oxen, deer, antelopes, and sheep, occur in this province, and some of the most useful animals of draught are the Indian buffaloes and humped cattle. The region is also very rich in birds and reptiles, possessing, among many varieties of snakes, the dreaded cobra.

The Ethiopian Province.—Arabia, which is the only part of Asia that falls within this area, has a fauna which resembles that of the Sahara, and is characterized by such large animals as the lion, the one-humped camel, and many kinds of antelopes.

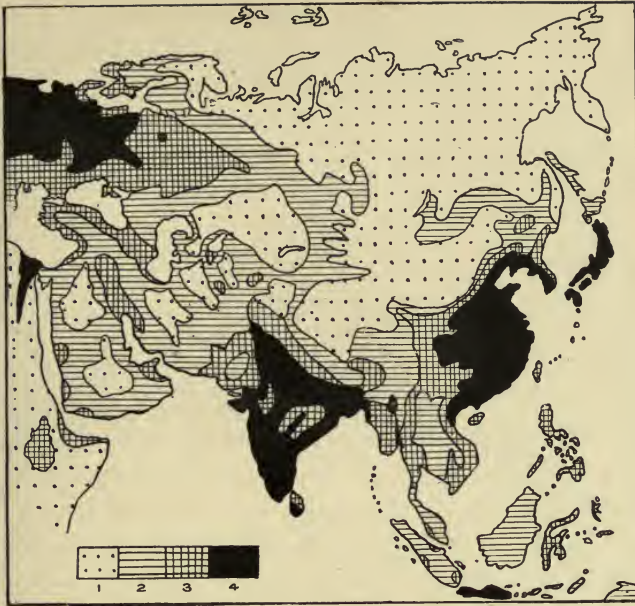
The Australian Province.—The division between this province and the Oriental was first determined by the naturalist Wallace, who considered it should be drawn between the Isles of Bali and Lombok, east of Java, and between Borneo and Celebes further north. Since then some zoologists, as Sclater, have shifted this line to the east of Celebes. As a matter of fact, the fauna along the border belt is naturally somewhat mixed, and those mammals which are most typical of the Australian province nowhere occur on the islands geographically included in Asia.

POPULATION.

The distribution of population is conditioned by the following circumstances :

1. **Climate.**—A comparison between the map on p. 31, showing the density of population, and that on p. 23, giving the annual rainfall, will indicate how closely the former reflects the influence of the latter. About eleven-twelfths of the total population of the continent is concentrated in the Monsoon area, which enjoys not only a good rainfall, but also high summer temperatures. Both the cold deserts of the north and the dry deserts of the interior are only sparsely populated, and mainly by nomadic tribes. Some regions of inadequate rainfall can, however, be rendered habitable by means of irrigation ; and this accounts for the number of towns in Mesopotamia, East and West Turkistan, and Persia. In these parts population could be increased by improved irrigation works ; but still a limit is fixed to the possible density of population by the limited supply of water available for irrigation.

2. **Relief of the Land.**—This affects the population directly, as rendering some parts less accessible than others, and indirectly, as



1. Less than one person per square mile.
2. 1-50.
3. 50-100.
4. Over 100.

ASIA : DENSITY OF POPULATION.

influencing climate. The Asiatic plateaux, therefore, are naturally less populous than the plains.

3. Fertility of Soil.—The most fertile portions of the continent are the plains of China, North India, and Mesopotamia. Here the fine sediment brought down, and constantly renewed and redistributed by the rivers and rain, is easy to work, and yields good returns wherever an adequate water-supply is available. The volcanic soil of many of the eastern and south-eastern islands and the basalt of the Deccan are also very fertile ; while another area of great fertility exists around the Upper Yenisei, but is as yet little developed.

4. Mineral Wealth.—Manufacturing industry has not yet advanced sufficiently in Asia for the coal-fields that exist in China and India to be the seats of dense population as they are in Europe ; but there are signs that this may be the case in the future in some districts. In Southern Siberia the occurrence of gold and other minerals has given rise to several mining stations, round which small towns have sprung up.

5. Means of Communication.—Population tends to collect along the great highroads of commerce—waterways, railways, roads, and

caravan routes ; and towns generally arise where several routes converge, or where one method of locomotion has to be changed for another, as at a port. The construction of the Siberian Railway has already greatly promoted the development of Southern Siberia, and the projected railway through Mesopotamia might do much to open up that region also (see p. 49).

RACE.

The primary racial divisions into which the inhabitants of the world have been grouped are : (1) The Caucasian ; (2) the Mongolian, of which the American Indian is thought by most ethnologists to be a branch ; (3) the Negro. These are sometimes popularly called (1) the white, (2) yellow and red, and (3) black races, according to the colour of the skin of a large number of the members of each division ; but really there exist so many variations in colour that it would be impossible to classify on this basis alone, and other characteristics have to be considered. The problem is also complicated by the fact that in some cases inter-marriage has taken place so freely as to efface the distinctive racial traits ; while in others long residence in different environments seems to have modified the striking features of the main stock.

The Caucasian Races.—These possess the following characteristics : (1) A fair skin—especially in the case of the northern races, for those of southern regions are much more olive in hue, and some are even brown. (2) Straight-set eyes, as contrasted with the oblique eyes of the Asiatic Mongolian races, and of varying hue—blue, grey, brown, and black. (3) An abundance of hair, often long and wavy, and varying in colour from yellow to red, brown, or black. The men have generally beards—another point of contrast with the Mongolian races, among whom these are rare, while they are only sparse in the Negro group.

To the Caucasian stock belong most of the inhabitants of Europe, of Africa north of the Sahara, and of Western Asia. The chief subdivisions found in Asia may be classified as follows : (1) The Georgians of the Caucasian region, who were supposed by some ethnologists so well to represent the most typical features of the primary stock that the name ‘Caucasic’ was given to this group of races. (2) The Semitic races of Arabia and Syria. (3) The Armenians and Kurds of Eastern Asia Minor, the Iranians of Persia, the Afghans and natives of Baluchistan. (4) The

Hindus of North India, who speak an Aryan language. Those speaking a Dravidian language in the south are of doubtful origin. (5) The Slavonic peoples who have spread from Russia over parts of Southern Siberia and Russian Turkistan. (6) A few British in India and French in Indo-China—for the most part only temporary officials in those countries.

The Mongolian Races.—To these belong about two-thirds of the total population of Asia. They can be classified as follows: (1) The Northern Mongolians, or Mongolo-Tatar, including—(a) The tribes inhabiting northern Siberia, who are akin to the Lapps of Europe. (b) Many tribes of Southern Siberia and Turkistan, as well as the Ottoman Turks. (c) The Japanese and Koreans. (d) The Manchus, who dwell in Manchuria, but are also found as the ruling class in China, a country they invaded about 250 years ago. (e) The Mongols proper, whose native home is Mongolia, but who have frequently invaded other areas in past times. It has already been pointed out how the continuity of the grasslands of Southern Siberia and Russia made expansion easy along this route for a nation of horsemen. Hence the Mongols were able to invade South Russia in the thirteenth century and occupy it for 250 years. The relative sterility of the Mongolian plateau also provoked invasion of the richer outlying plains. The Great Wall of China was built about 200 years B.C. as a protection against these hordes; but later they entered the country, and were only expelled in the fifteenth century. In the sixteenth century they entered India and founded the Mogul Empire.

(2) The Southern Mongolians, who include the inhabitants of (a) Tibet, (b) China proper, (c) Indo-China, (d) Burma and the Himalayan slopes in India.

(3) The Oceanic Mongolians, who form the bulk of the inhabitants of (a) the Malay Peninsula, (b) the East Indies and Formosa. In these races the usual Mongolian traits of yellowish hue, oblique eyes, and prominent cheek-bones are less pronounced than in the other divisions.



A CHINESE BOY.

The Negro Races.—These mainly consist of the inhabitants of Africa south of the Sahara, and of the natives of Australia. There exists, however, a branch of this race, called Negrito, comprising various tribes of a primitive type, some of which are found in small numbers in Asia as well as Africa. The chief characteristics of the Negritoes are small stature, dark-brown hue, and wavy or tufty black hair. A few of these are found in (1) the Malay Peninsula, (2) the Andaman Isles, (3) some parts of the East Indies.

Negroid characteristics have been detected by some ethnologists in the Dravidians of southern India and Ceylon, but the origin and extent of this element are uncertain matters.

QUESTIONS ON THE GENERAL GEOGRAPHY OF ASIA.

1. Draw a section across Asia along the meridian of 90° E.
2. Compare the configuration of Europe and Asia.
3. Criticize the statement, 'A volcano is a burning mountain.' Describe a typical explosive eruption.
4. Draw a diagram showing the direction of the ranges that radiate—(1) from Armenia; (2) from the Pamirs.
5. Describe the constructive work of rivers, and give Asiatic examples.
6. What large areas in Asia are, (1) generally, (2) always, inaccessible by navigable waterways from the ocean? Can any Asiatic rivers be used as routes between different countries?
7. In what parts of Asia is there greatest, and in what parts least, difference between summer and winter as regards (a) light, (b) temperature? Give reasons for your answer.
8. Describe and account for the different types of climate which occur in Asia along the parallel of 32° N.
9. What do you understand by a 'continental' climate? Name any Asiatic islands that have the characteristics of a continental climate, and explain how this happens.
10. What parts of Asia receive the bulk of their rainfall in winter, and why?
11. Describe and explain the climate of the following: Urga, Cherra Punji, Verkhoyansk, Smyrna, Leh, Tokyo, Tomsk (see pp. 122, 123).
12. A man travels across Asia from south to north along the meridian of 90° E. Describe and account for the differences in vegetation he would notice in the course of his journey.
13. Describe and explain the distribution of (1) the date-palm, (2) the coco-nut-palm in Asia. State the value of these trees to man.
14. Name various commodities of economic value obtained from the sap or the resin of different trees found in Asia, and state the districts where they are procured.
15. When is wheat harvested in Northern India, Asia Minor, and Siberia respectively? What climatic conditions limit the range of its profitable growth?



GREAT WALL OF CHINA.

16. State various vegetable fibres used in textile industries which are cultivated in Asia, and give their distribution.
17. What animals are used as beasts of burden in different parts of Asia ? To what extent is the distribution of these animals climatic ?
18. What Asiatic districts are noted for the production of wool and hair suited for textile industries ?
19. In what parts of Asia are (1) milk and milk products, (2) fish, staple articles of diet ? Where is the population largely flesh-eating, and where largely vegetarian ?
20. Discuss the distribution of population in non-monsoonal Asia, and state, with reasons, where you think the density of population could be materially increased.
21. Contrast the following with regard to (1) total population, (2) area, (3) density of population per square mile—the United Kingdom, Siberia, and the Japanese Empire.
22. To what extent is Tropical Asia under European control ?
23. Account for the fact that population in Asia is less concentrated in large towns than in Western Europe.
24. In what parts of Asia is life still to a great extent nomadic ?

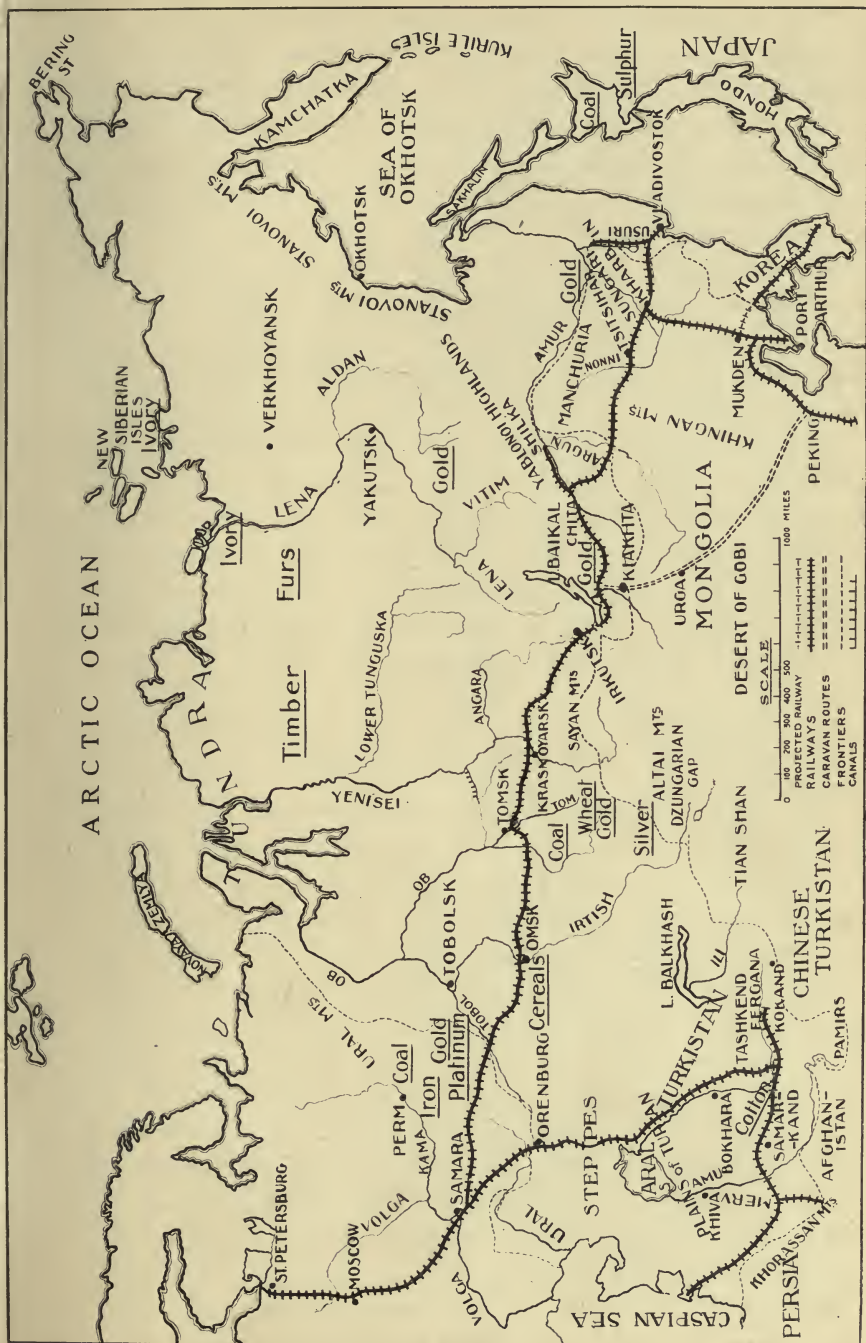
ASIATIC RUSSIA.

ASIATIC RUSSIA embraces more than one-third of the total area of the continent. From a consideration of the structure, it falls into the following regions : (1) The Tundra, or low barren wastes that skirt the Arctic Ocean. (2) The rest of Siberia east of the Yenisei, which possesses a diversified and mainly elevated surface. (3) The plain of Western Siberia, which is drained to the Arctic Ocean. (4) The plain of Turkistan with its upland girdle, which is an area of inland drainage. (5) The diversified region of Trans-Caucasia, which, though politically attached to Europe, seems naturally to form part of Asia. The structural contrast between Eastern and Western Siberia is partly overshadowed by the continuity of the forest-belt, which extends over the middle portion of Western Siberia and over nearly all Eastern Siberia, south of the Tundra.

THE TUNDRA.

Though this region is hilly in places, the average elevation is low, and this, combined with the frequent flooding of the rivers which cross it (see p. 41), has converted large tracts into swamps dotted with lakes, and has encouraged a prolific growth of mosses. Some of the swamps are overgrown with reeds, or thickets of short willows ; while elsewhere bog moss, reindeer moss, and lichens form a thick, uneven covering over large areas. In places where the soil is slightly drier there are forests of dwarf birches, which only attain a height of about a yard, and of such plants as crowberry, cranberry, and whortleberry. Large trees are confined to the sand-banks which flank the rivers, and there larch, willow, and alder occur. In summer the region is gay with many Alpine flowers, but for most of the year the ground is frozen and buried under snow. Even in summer the soil only thaws to the depth of a foot or two, and cultivation is, of course, impossible.

Ages ago the Tundra must have had a much warmer climate, for the mammoth roamed over these plains, and his tusks, preserved in the ice, still furnish an article of commerce. At present, though the region is rich in fish, and birds and insects abound during the summer, the only important animals are the reindeer, polar bear, small Arctic fox, and various rodents. The reindeer has been domesticated, and forms the chief wealth of the tribes who inhabit this region. It is able to subsist on reindeer moss, and in winter removes with its hoof the covering of snow that buries the moss. The animal furnishes the inhabitants with meat and clothing, besides drawing the sleighs which are the only means of conveyance. Even its horns, bones, and tendons are useful in this destitute region for the construction of implements.



ASIATIC RUSSIA: POLITICAL AND ECONOMIC.

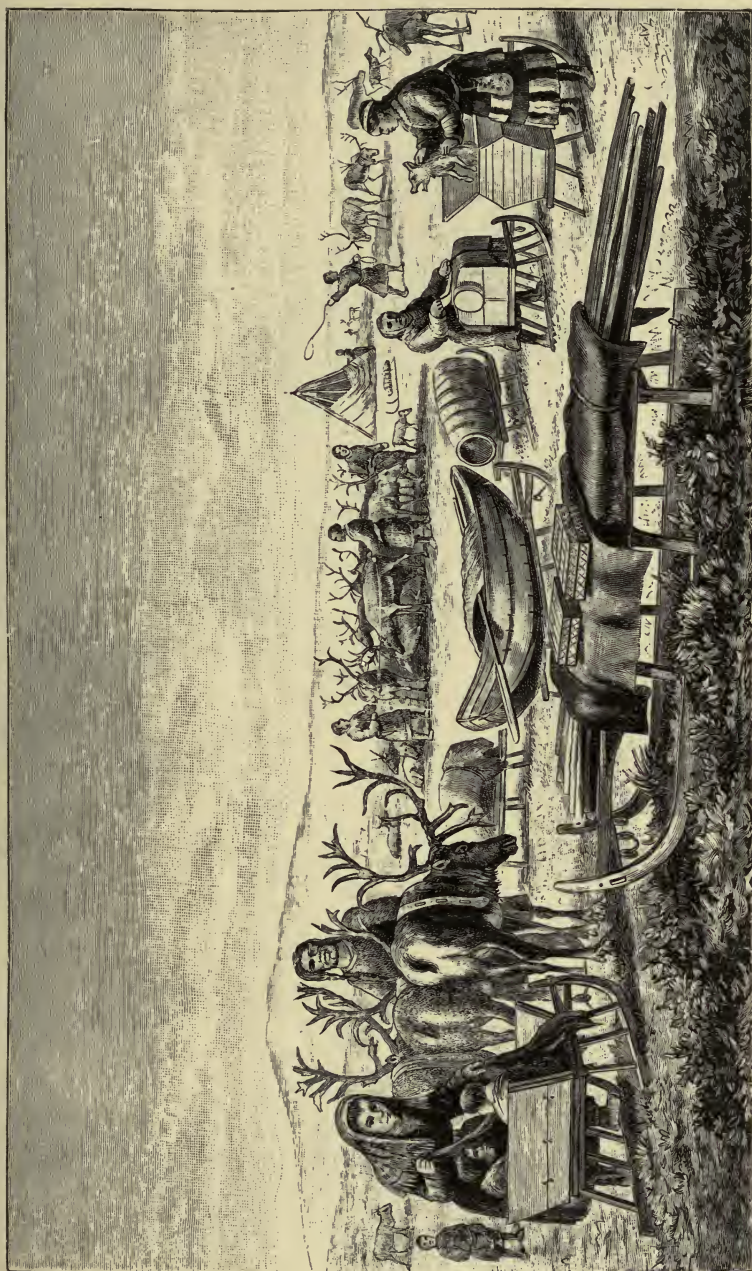
The inhabitants comprise various tribes of Mongolian race, as the Ostyaks and Samoyads. Not only the poorer classes, who are only hunters and fishers, but even the richer, who are also herders of reindeer and own dogs, are obliged to live a nomadic life. Game and reindeer moss are soon exhausted in a given area, and have to be sought elsewhere; while the cold forces the tribes to wander southwards in winter, and the mosquitoes induce many to seek high regions in late summer. The usual dwelling-place is a movable tent formed of birch-bark or skins stretched over a framework of poles, with a hole at the top to serve as a chimney. Furniture consists of beds made of skin and dried moss, mats, and a few weapons and utensils, while reindeer-skin provides the material for clothing.

Food consists chiefly of reindeer-flesh and fish, which is fresh in summer and dried in winter. Sugar, tea, and a kind of brandy, are obtained from traders in exchange for skins and furs. These are chiefly the skins of animals hunted in the outer fringe of the southern forest-belt; but the seals caught on the Arctic shores supply not only skins, but train-oil. The fur-coated seals are found only in the small isles in the Bering Sea, most of which belong to the United States.

THE SIBERIAN FOREST.

This forest is on the whole monotonous in aspect; for, though the trees vary with latitude and soil, wide areas are dominated by the same species, and, despite the glory of the autumn tints, the general impression is one of gloom. In the north the prevailing trees are spruces, firs, pines, and larches, with aspens here and there; while the river-valleys are clothed with willows. Towards the Tundra the trees dwindle in height and diminish in density, and many are coated with damp moss and lichen. Further south poplars and birches prevail; while throughout the whole area there is a considerable undergrowth of berry-bearing shrubs. The forest is most easily penetrated in winter, when the numerous swamps are frozen, and the irregularities of the surface covered with a thick layer of snow that can be traversed on snow-shoes. Even then progress is difficult, on account of the numerous fallen branches and trunks of decayed trees.

Wide areas of the forest are sometimes devastated by fire; but man has cut down little more than is required for local use, and no important



SAMOYADS ON THE SIBERIAN TUNDRA.

lumber trade exists as yet. The chief present value of the forests lies in the shelter they afford to game and fur-bearing animals. These include the stag, elk, wolf, fox, bear, lynx, squirrel, hare, martin, ermine, and sable, as well as grouse, plover, and wild swans. The most valuable furs are those of the black and silver fox, sable, and ermine.

There are no inhabitants in the interior of the forests, but on its edges live Mongolian tribes of similar race to those of the Tundra. These live in log-huts, and here the men leave their families when they go off in winter for long hunting and trapping expeditions into the forest.

EASTERN SIBERIA.

This consists, south of the Tundra, of an elevated region bordered by the Stanovoi Mountains on the east, and rising in the south to the highlands around Lake Baikal. The greater part of the surface is covered by the forests already described, and is drained by the Amur, Lena, and eastern tributaries of the Yenisei.

The **Amur**, which is called Argun in its upper course, rises in Mongolia, and, like its tributary the Shilka, is navigable nearly to the point at which it is crossed by the Siberian Railway. In its lower course it is navigated by sea-going vessels, but its mouth is closed by ice for half the year, and is obstructed by a bar. The Amur forms the frontier between Siberia and Manchuria, bounding the latter on the north and west, while its tributary, the Usuri, continues the boundary on the east. This tributary is navigable, and its course is followed by a railway which, on account of the northward direction of the Lower Amur, conveys much of the trade of that river south to the port of **Vladivostok**. This is one terminus of the Siberian Railway, and is a fortified naval station.

Some gold is mined at various places in the basin of the Amur, and a little coal on the island of **Sakhalin**. This island is almost forest-covered. The southern half of it belongs to Japan, the rest is used for convict settlements by the Russians.

The **Lena** rises close to Lake Baikal, and after a circuitous course flows across an immense delta into the Arctic Ocean. It is from three to twelve miles wide in its lower course, and is studded with islands. The right bank is flanked by a continuous mountain wall, and the whole of its course is through forests till the Tundra is reached.

Yakutsk stands on a frozen alluvial flat on the west bank of the Lena at its great bend. The town consists chiefly of small dilapidated houses, a few official residences, and a prison. It is a centre of the fur trade.



SIBERIAN PEASANTS.

The **Yenisei** rises in Mongolia, and enters the Arctic Ocean by a long estuary after a remarkably straight course. It is navigable from above Krasnoyarsk, where it is crossed by the Siberian Railway, and averages a few miles in width throughout most of its lower course. This width is greatly increased at times of flood, when the river resembles a vast lake. Unfortunately, the northerly gales at this season generally render navigation dangerous, and the mouth is rarely free from ice for more than the months of July and August, and sometimes for less.

All the tributaries of this river rise to the east of its course, and the Angara forms the outlet of **Lake Baikal**. This lake occupies two long parallel troughs of extraordinary depth, and has a mean breadth of about thirty-five miles. It is regularly crossed by steamers in summer, but is subject to storms and fogs. From January to May it is frozen, and can only be crossed by sledges. The water is fresh, and the salmon fisheries are important. Rapids occur on the Angara where it leaves the lake in a series of picturesque gorges, and **Irkutsk** stands at the

head of navigation. This town is the capital of Eastern Siberia, and an important trading-centre, which has gained much benefit from the opening of the Siberian Railway. East of Lake Baikal is **Kiakhta**, where the caravan route from China enters Siberia, but its trade is less important than formerly. The Trans-Baikal region is noted for gold.

WESTERN SIBERIA.

This is a great plain drained by the **Ob** and its tributaries. Like the other Siberian rivers, the Ob is navigable for most of its course, and is very wide, especially at times of flood. Its chief tributary is the Irtysh, which rises in the Altai Mountains and passes through the important Dzungarian Gap. On the Irtysh stand **Omsk**, where the river is crossed by the Siberian line, and **Tobolsk**, where it is joined by the Tobol tributary. The latter town is unhealthy, owing to the proximity of the marshes, though the official buildings, including the Governor's house, cathedral, and prison, are on the top of a cliff.

The capital and best-built town of Western Siberia is **Tomsk**, which stands on the Tom tributary of the Ob, some distance north of the point where the former is crossed by the Siberian line, with which the town is connected. Tomsk first became important when gold was discovered in the neighbourhood, and is still a depot for the gold mined in the Altai Mountains. Silver and lead also are worked in these mountains, and there is a large coal-field in the basin of the Tom; but the coal is of inferior quality. Tomsk possesses a University, and is becoming an agricultural centre.

Some of the most fertile areas in Siberia lie south of Krasnoyarsk, but difficulties in the way of transport have hindered their development. Those parts of Western Siberia which have been opened up to Western markets by the Siberian Railway are being brought rapidly under cultivation. Wheat, the chief crop, suffers occasionally from the inadequate supply of rain, which falls mainly in early summer; but it generally does well. Rye, oats, and potatoes are also grown, and cattle are reared on the grasslands, which still occupy most of South-West Siberia, and form part of the Steppes.

THE STEPPES.

The term 'Steppe' is a Russian word applied to all treeless, yet not desert, districts, and therefore covers a fair variety of scenery, although

over large areas the landscape may be monotonous. The prevailing aspect is that of grassy, undulating plains, or broad valleys hemmed in by hills, and watered by meagre streams which flow into salt lakes. These lakes are often surrounded by a girdle of salt-coated soil, and in some districts all the hollows are filled up with salt produced by the evaporation of sheets of water no longer existing.

In such saline regions vegetation is limited to a few low bushes ; but elsewhere grass predominates, varied by reeds and rushes in the marshes, while flowers abound in the spring. At that season there is a regular succession of tulips, lilies, forget-me-nots, honeysuckle, vetches, and other flowers, which sometimes colour the Steppe to the horizon. These, however, soon wither under the summer sun, and even the grass is burnt to a grey-yellow hue before the autumn. During the winter the whole region is buried under snow and swept by fierce snow hurricanes. The snow begins melting in April ; and this moisture, together with the early summer rains and warmth, accounts for the rapid growth of the grass and flowers at this season.

The inhabitants of the Steppes belong to many different tribes—as the Kirghiz of South-West Siberia, and the Kalmucks—but all are of Mongolian stock and lead very similar lives. Life is dependent on the rearing of herds of camels, horses, cattle, sheep, and goats, and is therefore perforce nomadic from May to November, in order that the animals may obtain sufficient nourishment. The different tribes wander over definite areas recognized as their special preserves ; but all seek the higher districts in the middle of summer, in order to avoid the heat and insect pests of the plains, and return to lower levels for the winter.

During the summer, the dwelling-place is a tent made of expanding lattice-work, and covered with felt manufactured from wool. These tents can be easily taken down, folded up, and carried on the backs of camels. They are furnished with carpets, rugs, and domestic utensils which, being made of leather, escape breakage in transport. In winter, when a settled life is necessary, huts are constructed of reeds and plaited willows for the men, and shelters for the animals, which are fed on hay stored for the purpose.

The usual clothing of the Steppe-dweller consists of a long fur or sheep-skin coat, wide trousers, a girdle, a fur cap, and high leather boots. The flocks furnish also the staple articles of diet—flesh, butter, and milk, both fresh and fermented. Cereals and tea also are obtained from travelling merchants.

SIBERIAN TRADE.

Trade in Siberia is handicapped by a deficiency of facilities for transport. As has been pointed out, the rivers are navigable for the greater part of their courses, and the Yenisei and Ob are united by a canal ; but these waterways either lead northwards to nearly uninhabited regions and ice-bound shores, or pass through districts of very similar products, where there is no necessity for exchange.

The Siberian Railway is the main artery of trade ; but this is only a single line most of the way, and, until branches are constructed, serves only a narrow belt of country. Trains run from Moscow to Vladivostok, and accomplish the distance of 5,390 miles in 381 hours.

The chief exports from Siberia are : cereals, mainly wheat, animals and animal products, and minerals.

WESTERN TURKISTAN.

This consists partly of a plain, which merges on the north into the plain of South-West Siberia, and partly of a series of elevated regions. The latter rise on the south to the mountains of Khorassan and the Hindu Kush, and on the east to the Pamirs and Tian Shan Range, and include the low plateaux of Lake Balkhash on the east, and of Ust-Urt on the west.

The climate of the plain is continental in temperature, and is marked by deficient rainfall. Most of the south and west consists of a sandy desert, where vegetation is confined to a few prickly plants, save where oases occur. The region is occasionally desolated by terrible dust-storms, and the sand is encroaching on districts where cultivation was formerly possible. Many towns, too, of importance long ago, have been buried. In the east the soil is clayey, but still barren ; while on the north stretch barren Steppe and saline wastes, dotted with numberless lakes and crossed by small streams, that disappear in the ground or lose their waters by evaporation. Nevertheless, fair numbers of camels, horses, cattle, and sheep are reared by the Kirghiz and other tribes.

The plain is drained to the **Sea of Aral**, which, like Lake Balkhash, is brackish, but full of fish, and formerly of greater extent than now. It is studded with isles, and very shallow—on the south-east little more than a flooded swamp. Two large rivers, which owe their origin



KIRGHIZ ENCAMPMENT.

to the snows and glaciers of the Tian Shan, enter this lake—the **Syr** and the **Amu**. Both are rapid and deep in their upper courses, and bring down a large quantity of silt in May and June, when the snows are melting on the mountains. As they proceed across the desert, they diminish in volume, partly because their waters are diverted for irrigation or lost by evaporation, and partly because they send off branches, which disappear in the sand. Both rivers are navigable for shallow craft throughout most of their courses, though sand-shoals are numerous, and the Syr is frozen in winter.

The banks of the Lower Syr consist of reed-covered swamps, and its vast marshy delta is the home of many wolves, wild boars, and deer, as well as of swarms of mosquitoes. Its upper valley is known as the **Fergana**, and here, by means of careful irrigation, a great deal of cotton is grown, as well as maize, wheat, flax, tobacco, the mulberry for the silkworm, and such fruits as grapes, apples, peaches, etc. These crops suffer occasionally from swarms of locusts, but otherwise prosper on the rich black soil of the district. This soil also occupies the Valley of the Ili, which flows into Lake Balkhash.

The towns of Kokand and Tashkent owe their existence to the Syr,

though the latter is at some distance from the main stream. **Kokand** is a market for the flocks and animal products of the Steppes. **Tashkent** is the largest town in Asiatic Russia, excluding Trans-Caucasia, and capital of Western Turkistan. The streets are wide, and the flat-roofed houses are surrounded by gardens. The inhabitants manufacture cotton, metal, and leather goods. From Tashkent a caravan route, now followed by a railway, runs north of the Syr to Orenburg on the Ural; while the town is connected, by a line running southwards, with the Trans-Caspian line, which terminates just beyond Kokand.

The **Trans-Caspian** line gains much from the supplies of naphtha found near the shores of the Caspian, and used as fuel. The tendency of wind-blown sand to obstruct the track is a serious menace to traffic, but is held in partial check by screens of low shrubs planted along the line. West of Kokand the line passes through Samarkand, Bokhara, and Merv, towns on irrigated oases, which have had eventful histories in the past. **Samarkand** taps the upper course of the same river that ceases in the oasis of Bokhara, and so tends to profit by the water-supply at the expense of the latter. The town is surrounded by a high wall, and possesses a fine citadel, now used as barracks.

Bokhara is also enclosed by a wall, in which there are twelve gates. It contains a large number of mosques, and has important bazaars filled with local produce and manufactures—*e.g.*, cotton, silk, rice, sheep-skins, dried fruit, and carpets. **Merv** has an advantageous position on a branch-line which has been carried southward towards Herat in Afghanistan. North of Merv lies **Khiva**, on an oasis created by water from the Amu. Cotton and silk are produced here, but the place is less important than formerly. The rulers of this oasis and that of Bokhara are partly independent of Russian control.

TRADE OF WESTERN TURKISTAN.

Of the great stream of traffic which, in olden times, flowed between the oases in this region and those in Eastern Turkistan, crossing high passes in the intercepting mountains, a remnant still follows this route. Another route of long-standing importance runs eastward along the northern base of the Tian Shan, and enters Mongolia by the Dzungarian



PETROLEUM WELLS AT BAKU.

Gap. Trade, however, is now carried on chiefly with Russia, and by means of the Trans-Caspian Railway and the line to Orenburg. The chief exports are live stock, raw cotton, silk, black lambs' wool—*i.e.*, Astrakhan—and hides.

TRANS-CAUCASIA.

This district includes the southern slopes of the Caucasus Mountains, the northern portion of the Armenian plateau (see p. 50), and the valley between, which is drained by the Kur to the Caspian. The climate approaches the continental, but the region gains much from the protection afforded by the Caucasus Range on the north, and is well supplied with rain in the west. Near the Caspian and on the Armenian plateau the fall is slight; hence these parts are devoted to rearing flocks. The lower slopes of the Caucasus are clothed with forests, and tea is cultivated in some parts with fair success. Cotton, tobacco, various cereals, the vine, and other Mediterranean fruits, are cultivated in the Caucasian valleys, as well as in that of the Kur.

The whole area is remarkably rich in minerals. Coal, iron, and

manganese, which is used in making steel and glass, are found near the Black Sea. Copper occurs in the east, and rock-salt has long been mined near Erivan. Still more important are the vast supplies of petroleum obtained from wells at **Baku** on the Caspian. A large quantity of this is conveyed by rail and in pipes to Batum and Poti for exportation. Both these places have large factories for refining the oil, and the latter has a good harbour.

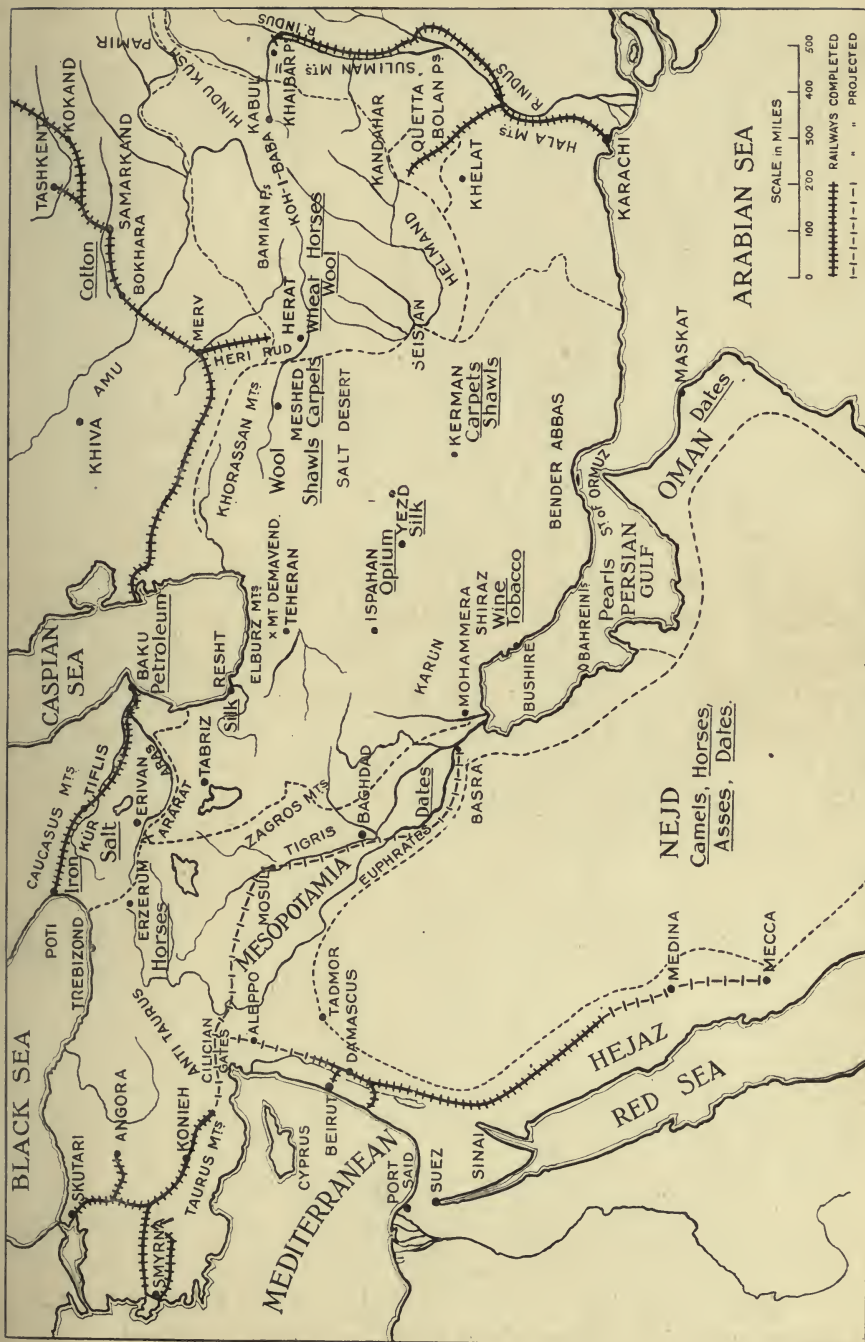
Tiflis, the capital of Trans-Caucasia, lies in the Kur Valley, on the railway between Poti and Baku, and commands the famous road over the Dariel Pass (see p. 5). The town exhibits a curious variety of European and Asiatic features, and has a mixed population, composed of Russians, Georgians, Armenians, and Persians. Various nomadic tribes dwell on the Armenian plateau besides the Armenians, who lead a settled life (see p. 52). The chief Russian town is Erivan, whither routes converge from Asia Minor and Persia.

QUESTIONS ON ASIATIC RUSSIA.

1. Describe the frontier of Asiatic Russia, and the extent to which it corresponds with physical features.
2. What difficulties hinder the Russian Empire from becoming a maritime Power ?
3. Draw a sketch-map of the Siberian Railway. State what goods will be exported from the districts it traverses, what goods imported by it to these parts, and what goods may pass over it from foreign lands as transit traffic to Europe.
4. Contrast the life of a Steppe-dweller with that of a stock-rearer in the United Kingdom.
5. What do you know of the Russian exile system ?
6. By what routes does the Russian Empire trade with the Chinese Empire ? What are the chief goods imported by these routes ?
7. To what extent can the Russian Empire, on account of its size and the variety of its products, be self-supporting ?
8. What advantages may an area which is naturally arid, but can be irrigated, have over one possessing a fair rainfall ?
9. State the uses of petroleum, and mention products of economic value that are obtained from it.

TURKEY IN ASIA.

THIS consists of (1) the plateau of Asia Minor ; (2) part of the plateau of Armenia ; (3) the diversified plateau of Syria ; (4) the plain of Mesopotamia ; (5) certain coastal districts of the Arabian Peninsula.



SOUTH-WEST ASIA: POLITICAL AND ECONOMIC.

ASIA MINOR AND ARMENIA.

Asia Minor is a plateau flanked by the Pontic Range on the north, the Anti-Taurus on the east, and the Taurus on the south. The western coast is fringed with islands, and much indented, the sequence of inlet and promontory reflecting the east to west direction of range and valley behind. **Armenia** is a higher plateau to the east, which culminates in Mount Ararat. This is an extinct volcano, and volcanic rocks predominate in the east and centre of Asia Minor ; but elsewhere the prevailing rock is limestone.

The Euphrates, Tigris, and Kur, with its tributary the Aras, which forms the boundary between Persia and Trans-Caucasia, rise on the Armenian Plateau. The Aras drains a large lake in Russian territory ; and two other large lakes, without outlets, stand, one on the Persian, and the other on the Turkish, portion of the plateau. There are also several lakes in Asia Minor, some containing saline and some fresh water. The porous nature of the limestone in Asia Minor has caused some rivers to disappear underground ; while the ranges which bound the plateau have forced others to cut deep gorges through them in order to reach the sea. These ranges also cut off rain from the interior of the plateau ; and thus the rivers, being shallow in their upper courses and rapid in their lower, are useless for navigation.

Cultivation is possible on the plateau where irrigation can be employed ; but most of Asia Minor consists of poor grassland, on which herds of sheep and goats are reared. The wool of the former furnishes the material for Turkish rugs and carpets, while the Angora breed of goats supplies mohair. Wheat and barley are cultivated in places, but the raisins, cotton, opium, figs, tobacco, and olives, which are exported, come chiefly from the western valleys. Other exports are valonia—a species of acorn-cup used in tanning—and silk, which is produced near the Sea of Marmora and manufactured at **Brusa**.

The seaward slopes of the Pontic Range are densely covered with deciduous trees, such as oak, beech, ash, and walnut, besides being planted with groves of peach, apricot, plum, mulberry, pomegranate, etc. The southern slopes of the Taurus also are well wooded ; but here the trees are mainly conifers, from which turpentine is obtained.



TURKEY IN ASIA : POLITICAL AND ECONOMIC.

Population is densest in the western portion of Asia Minor and on the isles of the coast, where sponge-fishing is an important industry. The chief town is **Smyrna**, which possesses a fine natural harbour, and is the focus of three railways running into the interior, one of which is very short; while another joins the **Baghdad line** (see p. 49) from Skutari, which has been constructed to a point somewhat beyond Eregli, and is projected as far as Adana, Mosul, Baghdad, and the Persian Gulf. There is a branch from this line to Angora. The line is projected to pass west of the **Cilician Gates**, a deep gorge which has served for long centuries as the route across the Taurus Mountains.

The chief port on the Black Sea is **Trebizond**, from which an important route runs east to **Erzerum**. To the latter town routes converge both from Persia and the south, so that it has become an important centre both commercially and strategically.

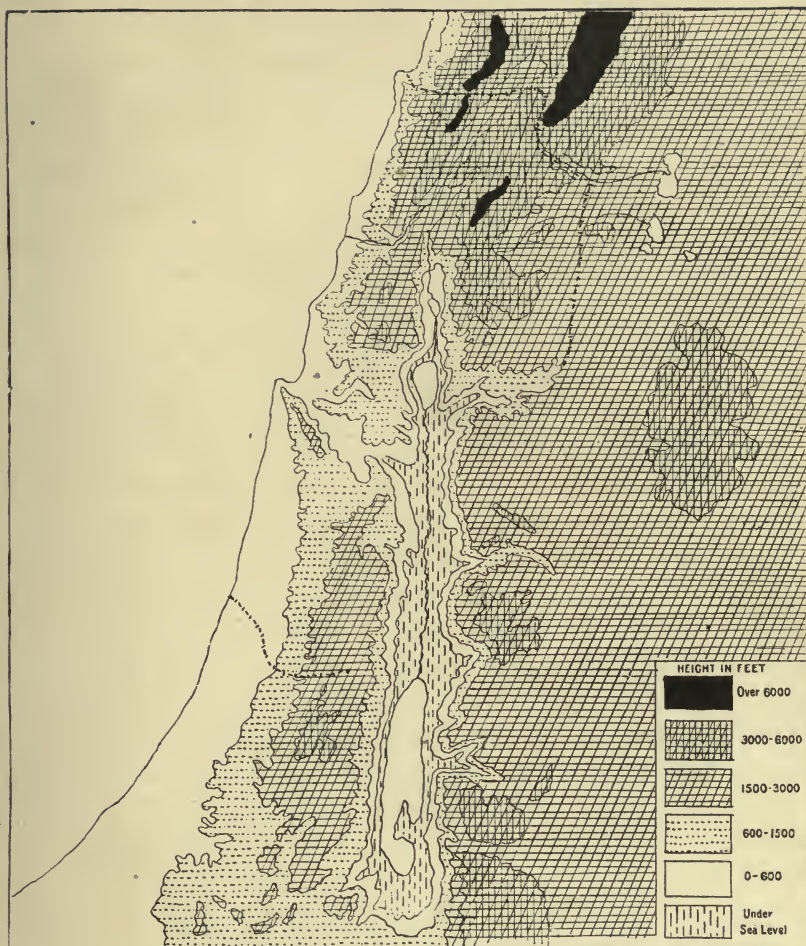
Various races dwell in Asia Minor ; but the Mohammedan Turks, who form the present ruling class, have done little to improve the country, and are in a backward social condition. The majority live by agriculture and cattle-rearing, and dwell in scattered villages built of sun-dried bricks. On the west coast, Greeks are in the majority and have monopolized the higher professions, and largely control the trade of Smyrna. These are members of the Greek (Christian) Church. The inhabitants of Eastern Asia Minor and Armenia are, for the most part, Armenians and Kurds. The **Armenians** are an intelligent Christian people, who have proved very successful in agriculture and trade, but have suffered much persecution from the Kurds, who are Mohammedans and of warlike nature. The chief occupation of the **Kurds** is breeding horses and goats, and their life is nomadic.

SYRIA.

This consists chiefly of a plateau, which nearly reaches the Mediterranean in the north, but on the south of the promontory formed by Mount Carmel leaves a coastal plain. The plateau is divided into an eastern and western portion by the deep valley followed by the Orontes in the north and the Jordan in the south. North of the Jordan, this valley is flanked by the Lebanon Mountains on the west, and the Anti-Lebanon range, which terminates in Mount Hermon, on the east. South-west of the Sea of Galilee is the fertile though boggy plain of Esdraelon, which extends to the Bay of Acre, and thus cuts the western plateau in two. On account of their great historical importance, the following regions into which the country is naturally divided deserve special consideration.

The Northern Seaboard, which was inhabited by the Phœnicians in ancient times. This seaboard is diversified by rocky promontories formed of spurs from the Lebanon Range lying behind, and these, by rendering land communication difficult along the coast, explain the slight political cohesion of the Phœnician cities that arose here. The two most noted of these cities were Tyre and Sidon. **Sidon** was situated on one of the promontories, where three reefs provided shelter for a harbour ; and **Tyre** was founded for purposes of security on an island since united with the mainland.

The inhabitants of these and other Phœnician cities grew wheat in the valleys and cultivated olives on the hill-slopes. They also cut down many of the forests which covered the mountains—notably the cedars of Lebanon—for use in shipbuilding, and as an article of com-



PALESTINE : OROGRAPHICAL. (After the Diagram Co.)

merce. In time the Phœnicians became expert seamen, making long voyages even into the Atlantic in search of raw materials for the industries they pursued, and planting colonies along the shores of the Mediterranean. They were skilled metal-workers, and sought for copper, tin, silver, and lead ; while their textile industry was rendered more valuable by the purple dye obtained from two sorts of shell-fish.

The Phœnicians held a favourable position between the early civilized nations of Mesopotamia—*i.e.*, Assyria and Babylon—and Egypt ; for

trade was forced northwards to cross the Syrian desert where it is narrow.

Tyre especially reaped the advantage, as it could be reached from Damascus by a route south of the Anti-Lebanon and Lebanon Ranges (see p. 51). It was, in fact, with the decline of these other nations that Phœnician trade and power dwindled; though Tyre suffered many vicissitudes before its final decay.

To-day the chief port on the coast is **Beirut**, which stands in a fertile tract of land, and is connected by rail with Damascus. Further north is Alexandretta, the outlet of Aleppo, and further south Haifa, on the Bay of Acre, from which a railway has been constructed to pass through the plain of Esdraelon and across the Jordan to join the line between Damascus and Hauran (see p. 51).

The Maritime Plain is composed of recent deposits, and mainly of sand, which is brought by a current from the mouth of the Nile and is rapidly encroaching inland. Formerly the Forest of Sharon occupied the northern portion of the plain; but trees are now few, save for groves of oranges and palms, and vegetation consists chiefly of grass near the cliffs and sand-hills, and of wheat inland.

The coast-line is singularly regular, and the mouths of all the shallow rivers which cross the plain are obstructed by bars. Hence there are no natural harbours, and the best port—**Jaffa**—can still be approached only in small boats across a belt of surf. The town is noted for its export of oranges, and is now united by rail with Jerusalem. Although the plain is difficult of access by sea, it is easily entered from Egypt on the south, or from the north by valley-routes east of Mount Carmel. It formed, therefore, in ancient days a highroad for both armies and caravans between Egypt on the one hand, and Phœnicia, Assyria, and Babylon on the other.

The Western Plateau south of Mount Carmel.

‘Bring up man and the animals on the scene, and you see those landscapes described by Old Testament writers exactly as you will see them to-day—the valleys covered with corn, the pastures above clothed with flocks, shepherds and husbandmen calling to each other through the morning air, the narrow, high-banked hill-roads brimming with sheep, the long and stately camel trains, the herds of wild cattle—“Bulls of Bashan have compassed me about.” You see the villages by day, with the children coming forth to meet the traveller; the villages by night without a light, when you stumble on them in the darkness and all the dogs begin barking.’—G. A. SMITH.

This plateau extends from the plain of Esdraelon to the hilly desert country south of Bir es Seb'a (Beersheba), a distance of about ninety miles, and averages about thirty miles in width between the maritime plain and the Valley of Jordan. The northern portion, which formed most of the ancient province of Samaria, is more accessible than the southern, which was called Judæa. The latter has generally been approached from the coastal plain by one or other of the valleys, which form natural routes inland; and the railway from Jaffa to Jerusalem utilizes one of these valleys for part of its course. The upper courses of the rivers are dry torrent-beds for most of the year; and, save for a few pools, the inhabitants of the plateau are dependent on wells and cisterns for their water-supply.

The plateau is composed of limestone, and, owing to the porous nature of this rock, the somewhat scanty rainfall, the neglect of the ancient terraces built on the hill-sides to keep the soil from being washed away, and the destruction of timber, which had the same effect, it is now mainly a stony moorland. Here and there are tracts of pasture and fields of corn, but fertility is chiefly confined to the valleys, where olives, figs, and the vine are cultivated.

The capital of Palestine—**Jerusalem**—has a central and fairly secure position on the spurs of some hills, but possesses no other natural advantages. It is a walled city, somewhat smaller than Oxford, and is divided into separate quarters for the Christian, Jewish, Moslem, and Armenian inhabitants. The great Mosque of Omar is said to occupy the site of Solomon's Temple, and the city is yearly visited by numerous pilgrims and tourists, drawn thither by its sacred associations.

The Valley of the Jordan.—This valley is of extraordinary depth, especially in the south, where the bottom of the Dead Sea is nearly half, and the surface about a quarter, of a mile below sea-level. The word **Jordan** means 'rusher,' and the river is a rapid, muddy torrent, of no use for navigation, and shallow enough to be forded at some points. It derives its waters from Mount Hermon, and is liable to flood in April, when the snows are melting. After passing through the Sea of Galilee, a fresh-water lake abounding in fish, it flows in a sinuous course at the bottom of a trench in the floor of the valley. On account of the hot atmosphere in this valley, vegetation is rank, especially near the river-banks; and the region has long been frequented by wild beasts. It is too unhealthy for habitation, and the only town existing there in ancient

times was Jericho, which flourished amid groves of palms, but is now reduced to a few mud-huts.

The **Dead Sea** is so salt that no fish can live in it, and its shores are salt swamps, beds of gravel, or barren cliffs. No vegetation thrives in the district, and even drift-wood is stripped of bark and coated with salt. Some petroleum and sulphur springs exist in the locality, and in places the rocks are of volcanic origin.

The Eastern Plateau.—This forms fair pasture-land in the west for the flocks of the Arabs ; but as the rainfall diminishes eastward, so the pastures fade away into the Syrian Desert. The prevailing limestone is overlaid in the district of **Hauran**, east of the Upper Jordan, by fertile volcanic basalt, which has rendered this area noted for wheat. This wheat can reach the coast by the railway to Damascus and Beirut, but large quantities also are borne by camel caravan across the Jordan to the plain of Esdraelon—the route of the recently constructed railway.

Damascus, the capital of Syria, stands at the western edge of the desert, amid fields and orchards irrigated by the waters of the Barada—*i.e.*, the ancient Abana. It is connected by rail with Beirut, and has often enjoyed temporary importance on account of its position as a natural route from Mesopotamia to the coast (see p. 49). It is also on the pilgrim route southward to Mecca, which is now followed by the railway for a considerable distance (see p. 49).

THE PLAIN OF MESOPOTAMIA.

The word 'Mesopotamia' means 'between the rivers'—*i.e.*, the Tigris and Euphrates ; but the plain is now considered to include all the land between the Armenian mountains on the north, the ranges which border the plateau of Persia on the east, and the wall of cliffs which flanks the desert plateau on the west. The northern portion of this area, which corresponds roughly with the ancient kingdom of Assyria, has a more diversified surface than the southern, which was occupied by Chaldæa and Babylonia. The southern is composed of alluvial deposits, mainly clay, and the land is so low and flat that fever swamps are found wherever drainage canals are lacking. The river delta is a vast morass.

The climate is so dry that cultivation depends entirely on irrigation,



MOSQUE OF OMAR, JERUSALEM.

but where this is available the yield is good. In former times much of the area was devoted to agriculture, but the Turks have allowed the old irrigation works to decay, so that most of the district consists of hard-baked clay, affording scanty pasturage in places for the flocks of the nomadic Kurds and Arabs. Close to the rivers, where annual floods allow of easy irrigation, fields of maize, wheat, tobacco, and cotton are cultivated, and date-groves are numerous between Baghdad and Basra.

The area is deficient in minerals ; and from earliest times the clay has been used for making the bricks with which all the cities are built, as stone is lacking. The chief places are situated on the banks of the rivers.

Mosul stands at the head of navigation on the Tigris, on an elevated site above the level of the river-floods, but to which the waters can be easily led to irrigate the surrounding district. It is a natural centre for routes from Persia, the Black Sea, and Mediterranean, and a bridge partly built of stone, partly composed of boats, crosses the Tigris at this point. Close to it, but on the opposite bank, is the site of the ancient city of Nineveh, now in ruins.

Baghdad was built in the eighth century on the Tigris, where that river approaches so near the Euphrates that they may be united by canals suited for irrigation as well as navigation. In the ninth century Baghdad became one of the chief cities of the Mohammedan Arabs, called Saracens, and a great centre of trade under Harun-al-Rashid—the Caliph rendered immortal by the ‘Arabian Nights.’ It derives considerable advantage from the fact that a tributary which enters the Tigris near this spot defines a valley-route leading across the Zagros Mountains to Persia. The city has gradually dwindled since the irrigation works were neglected, but still extends to both banks of the river, which are connected by a bridge of boats. In appearance it resembles many other Mohammedan cities, with its flat-roofed houses built of yellow brick, its mosques and minarets, its bazaars or open shops, and its cosmopolitan population. Though river steamers can reach this point, the commonest kind of boat is still the little round coracle made of reeds and covered with pitch, which is of very ancient origin.

A little south of Baghdad, and on both banks of the Euphrates, once stood the famous city of Babylon, of which only the ruins now remain. Like Baghdad, it possessed this advantage—that water for



irrigation could be led by canals from both rivers. When Nebuchadnezzar rebuilt it and made it his capital, he had the Euphrates bridged at this point. **Basra** lies in a marshy, malarious district, but is the natural port of the region ; and ocean vessels can ascend the Shat-el-Arab to this point.

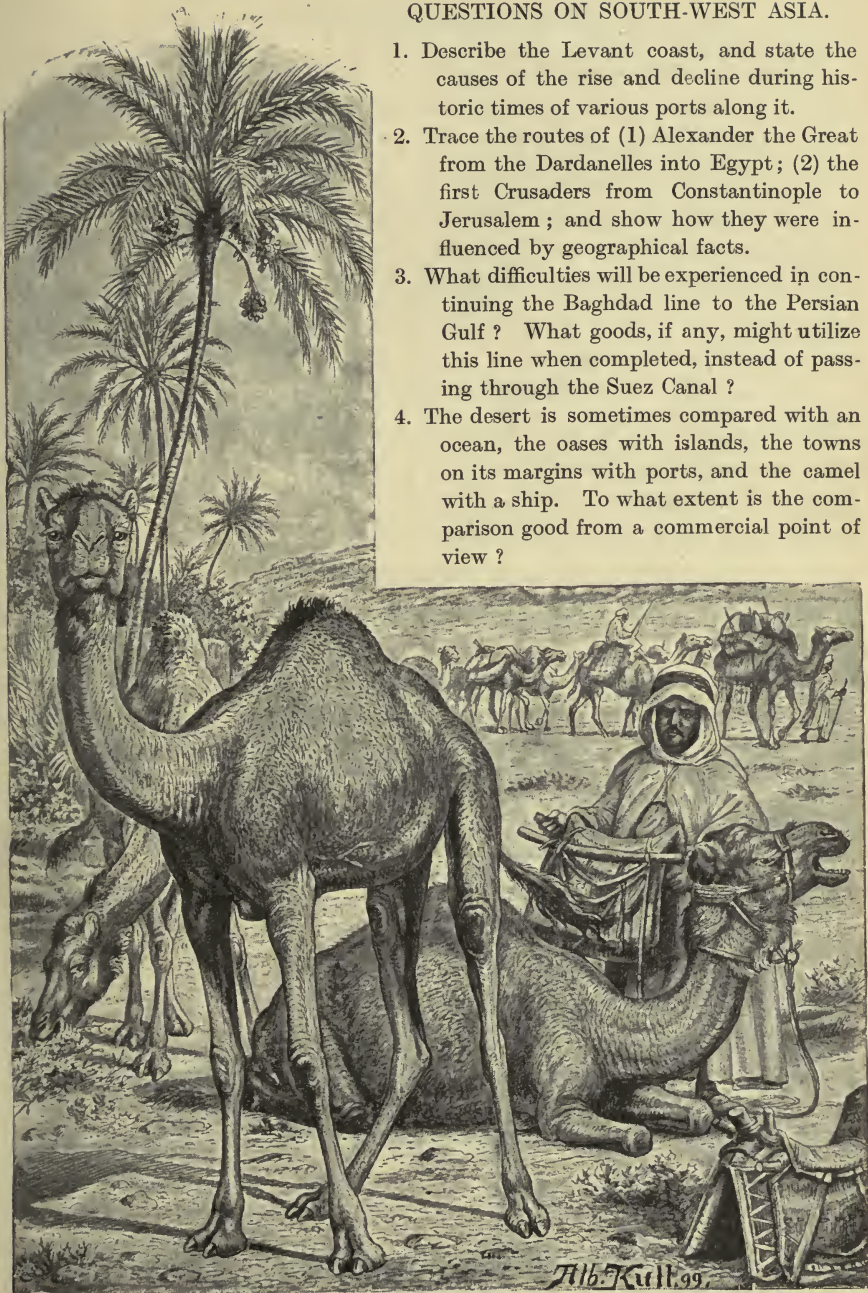
The Euphrates is of little use for navigation, mainly on account of artificial obstructions ; and, though some trade is carried on by the Tigris, traffic is at present mainly dependent on caravans. Of the caravan routes, the most important are those which follow the course of the Tigris or Euphrates, and then turn westwards to the coast, where the Syrian Desert is sufficiently narrow to be crossed with ease. One route leads from Mosul due west to Aleppo and Alexandretta, thus passing north of the desert. Another follows the Euphrates to a ford near the site of the ancient city of Carchemish in latitude 35° , and then turns south-west, passing by a series of oases and the ruins of Palmyra—the Tadmor of a still earlier epoch. These routes may in time be superseded by the Baghdad Railway, which might do much to increase the prosperity of the district.

ARABIA.

THIS is a tableland which is highest in the south-east (Oman), the south-west (Yemen), and the centre (Nejd). It is crossed by a few ranges, and slopes north-eastwards towards the plain of Mesopotamia. In structure and climate it resembles North Africa, from which it is separated by the Red Sea, rather than the Plateau of Iran, from which it is divided by the Persian Gulf and Mesopotamia. Its elevation, desert character, and harbourless coast have forced traffic to pass round rather than through it, hence the importance of the routes up the Persian Gulf and Red Sea. The latter has been especially important since the construction of the Suez Canal completed an ocean route between the Mediterranean and Arabian Seas. This canal is about 100 statute miles in length and 27 feet deep, but is at present wide enough only at certain places for two vessels to pass. The entrance to the Red Sea at the Strait of Bab-el-Mandeb is guarded by the British, who hold Aden and the Isle of Perim, while the Island of Ormuz, at the entrance to the Persian Gulf, now belongs to Persia. Arabia falls into the following natural regions : (1) A series of coastal belts ; (2) the deserts of the tableland ; (3) the higher and more diversified central highlands called Nejd. The coastal belts along the Red Sea and north part of the Persian Gulf belong politically to Turkey ; while the peninsula of Sinai forms part of Egypt, and is thus under English control, though acknowledging Turkish suzerainty. The rest of the country, save the British Protectorate of Aden, is governed by various Arab chiefs.

QUESTIONS ON SOUTH-WEST ASIA.

1. Describe the Levant coast, and state the causes of the rise and decline during historic times of various ports along it.
2. Trace the routes of (1) Alexander the Great from the Dardanelles into Egypt; (2) the first Crusaders from Constantinople to Jerusalem; and show how they were influenced by geographical facts.
3. What difficulties will be experienced in continuing the Baghdad line to the Persian Gulf? What goods, if any, might utilize this line when completed, instead of passing through the Suez Canal?
4. The desert is sometimes compared with an ocean, the oases with islands, the towns on its margins with ports, and the camel with a ship. To what extent is the comparison good from a commercial point of view?



CAMEL CARAVAN AND DATE-PALMS.

THE COASTAL REGIONS.

The Western Coastal Belt.—The greater portion of this is excessively sterile, and the sandy shore is backed by rocky ranges, only here and there relieved by a few palm-trees and prickly shrubs. Off the coast lie numerous coral reefs, which render navigation dangerous; and the one port of the region—**Jedda**—owes its existence to its proximity to **Mecca**, the birthplace of Mohammed, which is yearly visited by numbers of his followers. **Medina**, which lies amid date-palms in an oasis rather further north, and contains Mohammed's tomb, is also much frequented by pilgrims.

The province of **Yemen** in the south is more mountainous, and thus the higher slopes receive in autumn a fair rainfall, which is carefully utilized for irrigation. The hills here have been terraced to a great height; and coffee and vegetables and such fruits as grapes, figs, peaches, and pears, besides dates, are produced. **Coffee** thrives well, as it requires to be grown on hill-slopes where drainage is possible, and needs a damp, warm atmosphere. Here a mist rises from the coast every morning, which not only moistens the air, but prevents the heat of the sun being too excessive. The shrubs grow to about 15 to 18 feet high, flower in March, and yield three crops of berries in the year. The coffee was originally exported at Mocha, but now chiefly goes out from the roadstead of Hodeida.

The Southern Coastal Belt.—Most of this is a desolate region, backed by barren mountains; and cultivation is restricted to a few water-courses, of which the chief, near the middle of its length, attains a fair size. From of old the region has been noted for frankincense, myrrh, and gum—all resins from different kinds of trees; but population is sparse, and the area has not been fully explored.

The town of **Aden**, situated in the British Protectorate of that name, which is under the government of the presidency of Bombay, stands on a bare rock, part of the crater of an extinct volcano. It suffers from an unhealthy, sultry climate, and rain only falls at intervals of a year or two, when it is stored in huge rock-hewn reservoirs. Water is also carried into the town as well as being obtained by condensation of steam from salt water. On account of its position and good natural harbour, the town has become an important fortified coaling-station, and, being a free port, has also a large entrepôt trade. Politically attached to Aden

are Perim Isle, which is fortified, the Kurin Muria Isles, and Sokotra. The last exports aloes (from which a drug is manufactured), dates, and gum.

The Eastern Coastal Belt.—The mountainous area of **Oman**, like Yemen, receives a fair rainfall in autumn, so that it is partly clad with forests. The lower slopes are cultivated, and the district has a good natural harbour at **Maskat**, but the town is unhealthy.

North of Oman the coastal belt is unproductive ; but in the Persian Gulf are the **Bahrein Isles**, whose inhabitants are engaged in pearl-fishing, though the sharks that infest the gulf render diving dangerous. These isles are under British protection.

THE ARABIAN DESERTS.

The whole of the interior of Arabia suffers from drought, and also from great changes of temperature. Frost is not unknown at night ; while by day the absence of vegetation increases the absorption of heat by the ground, and consequently the amount of heat radiated from it. These changes of temperature affect the rocks, for with cold they contract, and with heat expand, and the result is a tendency to crack and disintegrate. Any pieces of rock thus split off are blown along by the wind, and not only carve, scratch, and polish the rocks with which they come in contact, but are themselves in time reduced to sand.

In some places this process has gone further than in others, and thus, while the desert in the northern part of Arabia consists largely of gravel and flint, that farther south is of sand. Even the sand-deserts vary, not only in colour, but in surface, according as the action of the wind forms sand-dunes or scoops out hollows. North of Nejd the sand over a large tract is of a brilliant red hue ; but in some other parts it is yellow or white.

There are no permanent streams on the tableland, and only a few wadis, or channels, occasionally supplied with water after rain, but never with enough to reach the sea. There are, however, springs which create oases, where date-palms, cereals, and pulses can be cultivated ; and water can be obtained in many places by sinking wells. Even in the most arid regions some thorny plants will thrive ; and most parts, after a slight fall of rain, are covered for a season with grass.

On this vegetation the wild ostrich and gazelle exist ; and the Arabs, though forced to live a nomadic life, are able to rear flocks of camels, horses, sheep, and goats. These Arabs, who are often called **Beduins**, are excellent horsemen, and possess little save their flocks, tents, cotton

clothes, and characteristic long spears. The privations of their life have tempted some tribes to become the raiders of the caravans and of the more settled population in the oases.

These **caravans** are simply companies of traders or pilgrims, who, for purposes of safety, cross the desert together under the guidance of men who know the tracks along which water can be found at sufficiently frequent intervals. The camel is invariably employed for long desert journeys, as it is able to subsist on the prickly desert shrubs, and to live, even in summer, for five or six days without water. A camel can carry a load of 350 to 450 pounds, and its pace is about five or six miles an hour ; but a large caravan rarely averages more than half this rate.

One of the dangers in crossing the sandy deserts is the possible occurrence of the **Simoom**. This is a storm caused, like a cyclone, by a current of hot air, which, rising, creates a draught, and thus sets up an inward, circular swirl of air. This raises the sand, and the air becomes so stifling and poisonous that animals and men are sometimes suffocated thereby.

The most important caravan routes lead to Mecca : one of these passes from Damascus southwards, and is gradually being supplanted by a railway ; and the other from Baghdad south-westward.

NEJD.

This is the central highland region, where the rainfall is sufficient to convert some of the upper tracts into good pastures, so that it has long been noted for its camels, horses, and white asses. In the valleys are many scattered, cultivated oases producing dates and millet, and supporting a fair population. The inhabitants live in walled villages composed of houses built of yellow sun-dried bricks, or huts of mud, and are very poor. Their very existence is sometimes threatened by prolonged drought, pests of locusts, or the blackmailing of the desert tribes.

THE TRADE OF ARABIA.

This is largely dependent on the pilgrims, for whose support supplies have to be imported ; but the value of the total trade is small for so large an area. The chief exports in order of value are : (1) Camels, sheep, hair, and wool ; (2) copper ; (3) dates ; (4) horses ; and the chief imports are : Cotton goods, sugar, hardware, and a few weapons. Slavery is

still a recognized institution in the country, and negroes are brought from East Africa for this purpose. The countries with which Arabia chiefly trades are Turkey, Egypt, Persia, and the United Kingdom.

THE PLATEAU OF IRAN.

THIS plateau is shut in by the Caspian Sea, the plain of Turan, the plain of the Indus, the Arabian Sea, the Persian Gulf, and the plain of Mesopotamia. From all these the interior of the plateau is separated by a mountainous girdle, which is so broad on the west as to occupy half of Persia. The area falls therefore, into the following natural regions : (1) The western highlands ; (2) the northern and eastern ranges ; (3) the interior plateau. To these may be added (4) the narrow coastal strips along the Persian Gulf and Arabian Sea. Politically the area is divided between Persia, Afghanistan, and Baluchistan.

THE COASTAL STRIPS.

The Persian Gulf Littoral.—This suffers from a dry, hot, unhealthy climate, and the soil produces only a few date-palms, save in the fertile strip round the head of the Persian Gulf. Here is the marshy delta of the Shat-el-Arab—the united Tigris and Euphrates—which, at the Persian port of Mohammera, receives the Karun through an artificial channel. The Karun is navigable for some distance, and is connected by a difficult caravan route with Ispahan.

The chief Persian port is **Bushire**, which stands on a sandy ridge cut off by a saline swamp from the mainland. The harbour is little more than a roadstead accessible for sea-going vessels of moderate size, and the town is very unhealthy. Like all Persian ports, it is at a disadvantage, owing to difficulties in communicating with the plateau, there being only an indifferent route from it to Shiraz. The third Persian port—Bender Abbas—is a mere roadstead on the Strait of Ormuz, from which a caravan route leads to Kerman. It stands opposite the little island of **Ormuz**, which was formerly a great depôt for Eastern trade, but is now nearly deserted. Some pearl-fishing is carried on in the Gulf.

The Southern Littoral from the Strait of Ormuz to the mouth of the Indus has a singularly regular coast-line, and is backed by parallel ranges which rise steeply to the plateau. Here and there the generally craggy coast is broken by the mouths of short rivers descending from the plateau, or by a strip of sand ; but there are no ports of any size, and little vegetation.

THE WESTERN HIGHLANDS.

These are composed of many ranges, all running from north-west to south-east, and grouped in two parallel belts, with a broad, elevated valley between. The eastern ranges cease east of a line drawn through Teheran, Yezd, and Kerman, and beyond this lie the deserts of the plateau. The western ranges are known in the north as the **Zagros Mountains**, and further south flank the littoral of the Persian Gulf.

The prevailing rock is porous limestone, which engulfs many of the rivers, and is the cause in places of a subterranean system of drainage. This natural phenomenon has been imitated in some cases by the inhabitants, who, for purposes of irrigation, have led water from springs long distances by underground channels, so that none may be lost by evaporation *en route*.

All cultivation depends on irrigation ; for the rainfall is scanty, and, as in the Mediterranean region, falls mainly in winter. Forests are limited to the moister western slopes, and elsewhere trees are rare, save for the orchards of olives, oranges, apricots, etc., that surround the towns and villages. The vine and mulberry are also cultivated, and wheat, barley, tobacco, and opium grown on irrigated areas. Here and there rich pastures occur, and Persia is noted for its horses, and the wool and hair of its camels, sheep, lambs, and goats. The prevailing scenery is, however, that of a poor steppe-land ; and the sharp contrast between this and the luxuriant vegetation of the few well-watered districts largely explains the high place accorded by poets to the charms of the latter.

Most of the population of Persia lies in this western region. **Teheran**—the capital—stands near the foot of Mount Demavend, with the drawback of an unhealthy climate, especially in summer. From it routes diverge to all the chief towns in the country : (1) North-westward to **Tabriz**, which stands on the road to Erivan and Trebizond. A branch from the route to Tabriz leads to Resht (see p. 67). (2) Southward to **Ispahan** and **Shiraz**, both centres of trade in fertile districts, and connected respectively with Mohammera and Bushire. Shiraz has long been noted for its rose-gardens and wine. (3) South-westward to **Yezd**, famous for silks ; and **Kerman**, where shawls and carpets are manufactured, and from which a road descends to Bender Abbas. (4) Eastward to the sacred city of Meshed. All these routes are suited merely for caravans, and often are in bad repair. No railway exists in Persia, save one a few miles in length near Teheran.



DISTANT VIEW OF MOUNT DEMAVEND, PERSIA.

THE NORTHERN AND EASTERN RANGES.

The **Northern Ranges** consist of the Elburz Mountains, the Khorassan Mountains, the Koh-i-Baba, and the Hindu Kush. The **Elburz Range** culminates in the beautiful peak of **Mount Demavend**. This is a quiescent volcano, but sulphurous fumes are still exhaled from the crater, and the cone is formed largely of rock-sulphur. The northern slopes of the range descend steeply to the Caspian, and obtain a fair rainfall from north-west winds. They are clad with forests, while cotton, silk, sugar, rice, and tobacco are cultivated in the lower valleys. **Resht** is a great collecting depot for the silk, and has a port on the Caspian at Enzeli.

The **Khorassan Mountains** are chiefly devoted to pasturage, and shawls and carpets from the wool thus produced are manufactured at **Meshed**. This is a holy city, containing the tomb of a noted saint, which is yearly visited by numerous pilgrims. It stands near the end of the Heri-Rud River, which rises in the Koh-i-Baba, and, after creating a

broad, fertile valley among the mountains of North-West Afghanistan, gradually dwindles away. The fertility of this valley, which is noted for its wheat, grapes, and horses, has tempted frequent invasion, especially as the chief town in it—**Herat**—lies at a natural focus of routes from Meshed, Kandahar, and Merv, and not far from the railway running to the last. The place is therefore strongly fortified. It manufactures silk goods and carpets.

The **Koh-i-Baba** is a detached portion of the Hindu Kush, separated by the **Bamian Pass** from the main lofty range that leads on to the Pamirs. This pass once formed an important commercial route between the plain of Western Turkistan and India, but is now little used. The route is continued eastward along the valley of the Kabul, on which river stands **Kabul**, the capital of Afghanistan, and by the **Khaibar Pass** to Peshawar (see p. 94).

The **Eastern Ranges** consist of the Sulaiman and the Hala Mountains, which run south of the Khaibar Pass to the coast. Between them is a valley which, with the **Bolan Pass**, forms a route from India to Quetta, and is now followed by a railway. **Quetta** lies in the British province of Baluchistan, and is a highly fortified military station.

THE HEART OF THE PLATEAU.

This is everywhere arid, but its surface is diversified by depressions, of which the two largest and most northern are the Great Salt Desert and the Seistan lowland. The **Salt Desert** is composed partly of sandy soil strongly impregnated with salt, partly of blocks of solid salt, and partly of swamps. The region is practically uninhabited.

The **Seistan depression** is traversed by the Helmand and other rivers, which terminate in shallow pools and reedy marshes. The soil is sandy, but, with irrigation, cultivation is possible, and cereals and fruits are grown to perfection around **Kandahar**. This town is enclosed by a high mud wall, and is chiefly important from its central position between Herat, Kabul, and Quetta.

Throughout the plateau of Iran transport depends mainly on camel caravans, and the volume of trade is relatively small. The chief exports of Persia in order of value are : Fruits, fish, opium, carpets, silk and silk cocoons, rice, hides, raw wool and woollens, and raw cotton and cottons.



Photo by]

SHEEP CARRYING GRAIN.

[F. E. Shawe.

THE PLATEAU OF TIBET.

THIS lofty plateau lies between the Kuen Lun and the Himalayas, which converge towards the Pamirs on the west. On the east the plateau broadens out, and is flanked by many ranges, which, turning southward, separate the gorges of the upper Hwangho, Yangtse, Mekong, and Salwin. Besides these rivers which rise on the plateau, there are the Indus and Sanpo—the upper course of the Brahmaputra—which have their sources close together, but flow in opposite directions, and finally break through the Himalayas—the one at the western and the other at the eastern extremity in unnavigable gorges.

Tibet is thus naturally difficult of access, and this isolation has caused little to be known of the interior till quite recent times, and has enabled the inhabitants, while owing allegiance to China, to be practically very independent. Exploration has also been handicapped by the barren nature of a large portion of the country, by the continental climate and excessively cold winters, by the rarefied atmosphere due to altitude, which even affects the breathing of some travellers, and by the opposition of the inhabitants. The interior of the country is deficient in rainfall, for the ranges on the south and east cut it off from the wet summer monsoons, and in winter the winds blow outwards.

Tibet falls roughly into two natural regions, the larger consisting of the northern plateau, and the other composed of the valleys in the south.

The Northern Plateau.—This is traversed by a few chains of rounded hills, which separate broad valleys occupied by numerous lakes and wadis. It is at best a poor pasture-land, but has a rich native fauna, including antelopes, yaks, wild sheep, bears, wolves, jackals, etc. The musk deer, from which the valuable musk scent is obtained, is also found here as well as on the Himalayas. Most of the region is uninhabited, but towards the south there are nomadic Tibetans, who tend herds of yaks, ponies, sheep and goats.

The **yak** here takes the place that the reindeer fills in the Tundra region ; for it has similar powers of enduring cold and subsisting on scant vegetation, while it supplies the natives with milk, flesh, and hair, which is woven to form the black material used for tent-coverings. The animal is also very sure-footed, and therefore especially suited to serve as a beast of burden across the mountains encircling the plateau, though ponies, sheep, and even goats, also are used for this purpose. Most of the inhabitants are clad in long sheep-skin coats, and subsist on oatmeal porridge, mutton, butter, and tea. A few find employment in obtaining salt from the shores of the lakes, and borax, which is used among other purposes in manufacturing enamel, glazes for pottery, and some sorts of glass. Some gold and silver are mined in the west.

The Southern Valleys.—These, on account of their depth, and hence relative warmth, are the most fertile part of the country, and oats, pulses, and even fruit-trees, are cultivated. A settled life is therefore possible, and the bulk of the population of Tibet is concentrated in the valleys of the Sanpo and its tributaries. Some of the natives are engaged in agriculture, some in metal-work and weaving ; but a large proportion are lamas—*i.e.*, priests of the Buddhist faith, which is the predominant religion in the country.

Buddhism is founded on the philosophical and religious teaching of a man called Buddha, who dwelt in the plain of the Ganges in the fifth century. In the main, this religion has degenerated in Tibet into what is, practically, the worship of relics or images of Buddha, and the mechanical performance of many rites and ceremonies. The lamas lead a celibate life, dwelling in monasteries, and supported by the rest of the population, though some also earn money by trading. The chief lama dwells in a magnificent palace on the summit of a hill a short distance from Lhasa, amid a number of monasteries.

Lhasa itself, the capital of Tibet, lies on the north side of the valley of a small tributary of the Sanpo. It is the natural focus of the trade of the country, importing brick-tea and cotton goods from China, animals and animal products from Mongolia, and silks, rice, indigo, sugar, and spice from India. The chief route into China runs due east of Lhasa to the province of Sechwan, and the routes into India either by difficult passes over the Himalayas, or westward via the Indus Valley (see p. 95). All transport is by pack-animals or human portorage. The **chief exports** in order of value are : Silver, gold, salt, wool, woollen manufactures, furs, drugs, and musk.



A YAK CARAVAN IN TIBET.

THE PLATEAU OF EASTERN TURKISTAN.

THIS is another of the Chinese dependencies, and lies between the Tian Shan Mountains on the north, the Kuen Lun on the south, and the Pamirs on the west. Though of considerable altitude, the area is only half as high as the plateau of Tibet, and forms the basin of the **Tarim**. The banks of this river are fringed with poplars, willows, and tamarisks, and the saline swamps of Lob Nor, in which it terminates, are covered with reeds, which form the home of many water-fowl and wild animals.

The region has a continental climate, and is very deficient in rain; the tributaries of the Tarim deriving their waters from the snows and glaciers of the encircling mountains. When these rivers descend to the plateau, their waters can be turned to good use for irrigation; so a series of green oases marks the northern base of the Kuen Lun and the southern of the Tian Shan, contrasting sharply with the expanse of brown, shifting dust and sand elsewhere, and defining the two great trade routes of the country. These meet at **Kashgar**, a walled town that has become an important trading centre, which stands in the midst of a rich oasis, and commands routes by the Terek and other passes across the Pamirs to Western Turkistan.

Two other important places, on oases on the southern route, are **Yarkand**, a great market for live stock and wool, and **Khotan**, where silk and leather are manufactured. South of Khotan the Kuen Lun are rich in gold, and south of Yarkand in **jade**—an ornamental stone which was a very important article of trade in the Middle Ages, and is still in request in China and Japan.

THE PLATEAU OF MONGOLIA.

THIS falls into two natural regions: (1) The Desert of Gobi, which occupies most of Mongolia, and extends into Eastern Turkistan; (2) the low plateau of Dzungaria. Politically it forms part of the Chinese Empire.

The Desert of Gobi.—This is a high, arid region; but, though much of it is a sandy waste in the west, and gravel or barren rock in the east, there are grassy tracts where large flocks of camels, horses, and sheep are reared. It forms a great natural obstacle to trade between China and Siberia, but is crossed by a few regular caravan routes. One of these leads from Peking to Urga for Kiakhta and Irkutsk, and others to Dzungaria.



[From "The World's Commercial Products,"

COOLIES CARRYING BRICK-TEA TO TIBET. (See p. 84.)

Dzungaria occupies the gap between the Tian Shan and the Altai Mountains, and is important on account of the routes that pass through it. One of these leads via the Upper Irtysh to Western Siberia, and another skirts the northern base of the Tian Shan to Western Turkistan. The valleys of the numerous short rivers which traverse this region and terminate in lakes and swamps, as well as that of the Upper Irtysh, form good pasture-lands; and many of the ranges are clad with forests.

The **inhabitants** of Mongolia are engaged chiefly in stock-rearing or in caravan traffic, and hence nearly all are nomadic. They are Buddhist in religion, and a very large monastery exists at Urga, where the chief priest dwells. The **chief exports** of the country are live stock, hides, salt, and soda.

THE PLAIN OF MANCHURIA.

THIS forms the largest and most important part of the Chinese dependency, Manchuria, which is bounded on the north by the Amur River—called in its upper course the Argun—and its tributary, the Usuri. The whole of this frontier waterway is navigable, save when frozen in winter, as are also the rivers which drain most of this region—*i.e.*, the Sungari to Kirin, and the Nonni to Tsitsihar.

Though the plain lies in the monsoon area, the seaward ranges cut it off almost completely from the influence of oceanic winds, and the temperature is continental and the rainfall slight. The land is, however, fertile, and yields good crops of millet, wheat, beans, hemp, and ginseng, which is cultivated for the sake of a drug obtained from the root, and highly valued in China. Some gold is mined by the Government in the Lower Sungari basin, and the eastern mountains are rich in coal and iron, though these, as yet, are little developed. The ranges are also clad with forests, which form the home of numerous wild animals, including the tiger, lynx, leopard, bear, sable, etc. The skins of some of these are of high commercial value.

The plain is crossed from north-west to south-east by the Siberian Railway to Vladivostok via Tsitsihar and Kharbin. From the latter a branch runs southward through **Mukden**—the capital of the country—to **Port Arthur**, a great naval station, which was captured by the Japanese from the Russians in 1905, and is now leased by them from China. The line to Port Arthur is connected with Niuchwang, and continued south-westward to Peking. **Niuchwang** is a treaty port—*i.e.*, a port which, by treaty, has been declared open to foreign trade—but is obliged to utilize an outport on account of its diminishing depth, and, moreover, is frozen in winter.

The **inhabitants** of Manchuria invaded North China in the seventeenth century, and established there the Manchu Dynasty, which still exists. In Manchuria itself, however, the native population has been largely supplanted by Chinese immigrants, who now form the bulk of the population.

KOREA.

THIS is a mountainous peninsula traversed by a range which lies nearer the east than the west coast. The rainfall occurs in summer, and is heavy on the eastern slopes of the mountains, which are densely clad with forests. The most fertile areas lie near the west coast, where rice, millet, beans, hemp, cotton, and ginseng, are cultivated. A good deal of gold is mined in the north.

Wild-fowl abound in the coastal districts, and the seas are rich in fish; but violent high-tides render navigation difficult along the west coast, and the only good eastern port is Fusan. This is now connected with the port of Chemulpo on the west by a railway, which passes through **Seoul**, the capital of the country. The river on which Seoul stands is navigable with difficulty to that point.

Korea, though nominally independent since the Chinese-Japanese war, is practically under Japanese influence, and many Japanese have settled there in recent times. The **chief exports** in order of value are : Pulses, ginseng, rice, and hides.

QUESTIONS ON PERSIA AND CENTRAL ASIA.

1. By a recent treaty the Russian sphere of enterprise in Persia lies north of a line drawn from the meeting-place of the frontiers of Afghanistan, Turkistan and Persia to Yezd, and on near Ispahan and Kermanshah to the western frontier. The British sphere lies south-east of a line through Bender Abbas, Kerman, and Birjand, and the rest of the country is neutral. Compare the political and economic value of these areas (see map in the "Statesman's Year Book," 1908).
2. Compare and contrast life in the deserts of Arabia, Mongolia, and the Tundra.
3. Give an account of Afghanistan, and explain the extent to which it may be regarded as a Buffer State.
4. What facts have led to the suggestion that a change of climate has taken place in the Tarim basin during historic times ?
5. What minerals of economic value are often found in arid regions ?

CHINA.

THIS is a very compact mass of land of roughly circular shape, which protrudes into the Pacific on the east, and ascends on the north and west to the plateaux of Mongolia and Tibet. From the latter it is, to a large extent, cut off by a series of ranges and deep gorges running north and south; but the exposed nature of the northern frontier led to the con-

struction of the **Great Wall** about 200 B.C. This wall runs from Peking about 1,600 miles westwards, but only coincides with the political frontier after crossing the Hwang-ho. Near Peking it is built of massive blocks of granite, and varies from 25 to 40 feet in height. It is wide enough at the top for a carriage-road, and is flanked by towers at frequent intervals. Further west, however, it sinks to a mere mud rampart, and in places has fallen completely into ruins. Its course was apparently planned irrespective of physical features, for it has to climb many ranges and cross many deep ravines.

The southern boundary of China mainly follows the watershed, and the wild, mountainous nature of the country when the coast is left behind, the deep gorges of the Upper Salwin and Mekong, and the prevalence of dense forests, preclude all danger of invasion. In fact, everywhere, although the actual frontier of China is determined by artificial lines, the physical features are such as to cut off the country in a marked degree from intercourse by land with other nations, and this partly accounts for the conservative characteristics of the inhabitants.

From a consideration of the relief of the country China falls into the following areas: (1) The Northern Highlands; (2) the Great Plain, which extends south to Hangchow Bay; (3) the Western Highlands; (4) the Basin of Sechwan; (5) the Plain of the Middle Yangtse; (6) the Southern Highlands; (7) the Valley of the Si-kiang and south-east coastal plain. Of these regions numbers (1) and (2) are crossed by the Hwang-ho, and (3), (4), (5), and (6) by the Yangtse.

NORTHERN CHINA.

The **Hwang-ho** rises in Tibet, and has a general eastward trend, save for the noticeable northern bend in its middle course, which defines three sides of a square, the fourth being supplied by its tributary the Wei. The river is swift, broad, shallow, and obstructed by many shoals throughout the greater part of its course, while when it forms the western boundary of Shansi it passes through a narrow rocky gorge. Its name, which means Yellow River, is due to the colour imparted to it by the yellow loess soil over which it flows, and which forms the sediment brought down. This sediment so raises the bed of the river in its lower course that the floods to which it is subject would inundate vast regions were it not for artificial embankment. As it is, the river has caused so much damage as to be called 'China's Sorrow,' and has frequently altered its lower course, so as sometimes to flow into the Gulf of Pechili, and



1. Under 600. 2. 600-3,000. 3. 3,000-6,000. 4. Over 6,000. Height in feet.

THE FAR EAST: OROGRAPHICAL. (After the Diagram Co.)

sometimes into the Yellow Sea. Willows and shrubs have been planted for considerable distances along the river-side, in order to preserve the banks from rapid denudation; but on account of the danger of floods there are no large towns near the river in its lower course.

The **Northern Highlands** lie north of the Tsin-ling Range, which is practically a continuation of the Kuenlun, and forms, unfortunately, a barrier between the Wei tributary of the Hwang-ho and the Han tributary of the Yangtse. In spite of the somewhat bleak climate of these highlands, a fairly dense population is able to support itself by cultivating the fertile **loess** soil. This yellowish-brown deposit has been carried by wind and water in the course of centuries from the interior of Asia, and has not only covered much of the Great Plain, but the valleys and slopes of this north-western area. In some cases it extends to a

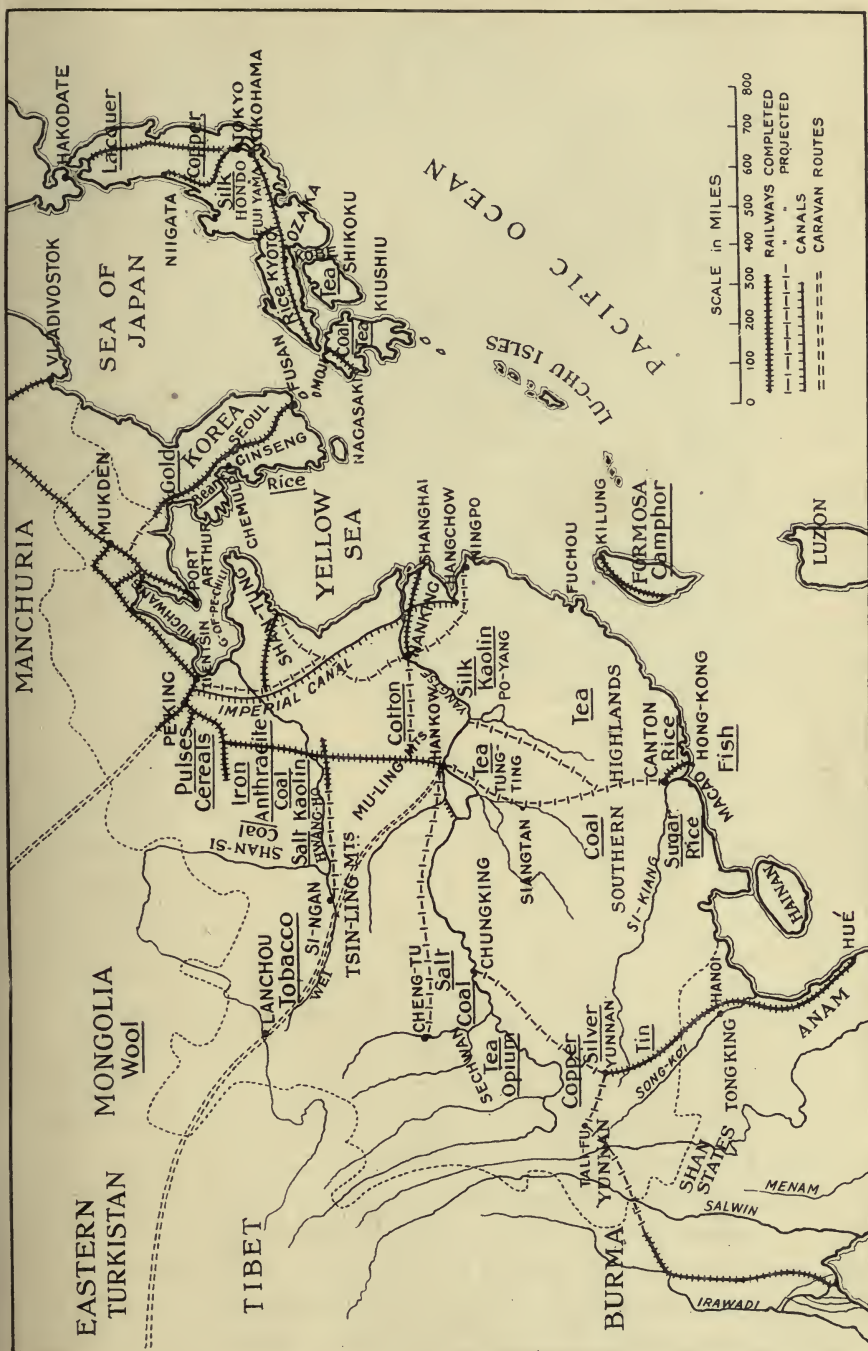
height of several thousand feet, and terraces have been constructed to prevent its being washed away by the rains. Owing to a tendency to vertical cleavage, it often forms steep precipices, and, being soft, is traversed by deep ravines carved out by watercourses. Even the roads are sunk, by the action of traffic, so far below the level of the surrounding country that caves are sometimes scooped out of the banks to form human habitations. Such a country is peculiarly difficult to traverse; while the advantages of fertility and ease of working possessed by the loess are somewhat counterbalanced by its porous nature, which renders irrigation necessary in most parts. In order to secure this on the hill-slopes, water has to be raised in stages by water-wheels, which are worked both by men and buffaloes, and then streams can be led down from field to field as required.

The staple crops of the north are wheat, barley, millet, maize, pulses, and in some parts cotton and tobacco. When silk is produced, the worms are fed on the leaves of a kind of oak-tree. Coal and iron are found in the southern province of Shansi, the coal-fields being of vast extent and including both the hard anthracite and the soft bituminous coal. The measures occur, too, near the surface, so that mining is easy; but the difficulty of transporting the coal to the districts where it is most required has prevented a great development of mining up to the present. Potter's clay, also, is found on this field, and salt in the south-west of Shansi.

The chief route through the highlands follows the Wei Valley, passing the large town of **Singan**, and crosses the Hwang-ho at Lanchou, a place noted for tobacco. This route is continued westward into the Tarim basin, and north-westward to the Dzungarian Gap.

The Great Plain.—This is flanked by the plateaux of Mongolia and Shansi on the north and west, while on the south-west it is separated from the middle plain of the Yangtse by the Mu-ling Range. South-east of the Yangtse another range forms the boundary to Hangchow Bay. The coast is broken by the mountainous peninsula of Shantung, but is elsewhere low, sandy, and remarkably regular, the only important opening being the mouth of the Yangtse. Except for the mountains of Shantung, the surface is uniformly low, and the coastal belt south of that peninsula is studded with lakes.

The soil is partly loess and partly alluvial silt brought down by the rivers. The most important of these rivers are the Yangtse, which can



THE FAR EAST: POLITICAL AND ECONOMIC.

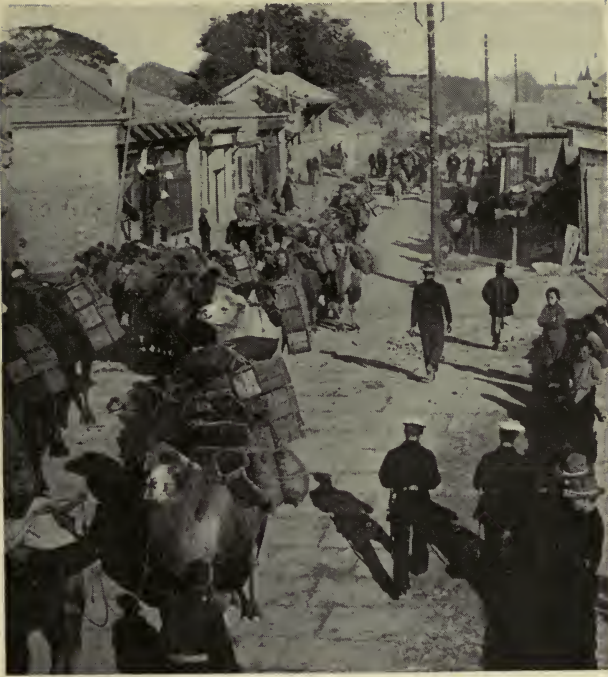
be navigated by ocean vessels to Hankow ; the Hwang-ho, which has already been shown to be of slight commercial value ; and the Pei-ho. The last is navigable for small boats to a point opposite the site of Peking, and for coasting steamers to its port—**Tientsin**—save when it is frozen in winter. From Tientsin the **Imperial Canal** runs southward for 700 miles to Hangchow. This was made many centuries ago, and though the southern half is still much used, the northern has fallen out of repair in many places.

The climate of the plain is extreme, even near the coast, and further inland is rendered severe by the prevalence of cold, dry winds from the interior in winter. The rains come with the summer south-east monsoon, and would be generally sufficient for agriculture were it not for the porous nature of the soil. As it is, the region is pitted with wells from which, as well as from the rivers, water can be obtained for irrigation. Agriculture is everywhere the staple occupation, and is carried on with the minute personal care that we are only accustomed to bestow on gardens. The crops are those mentioned above, silk being especially important in Shantung. Large numbers of fish are obtained from the sea, rivers and lakes, and form an important article of diet throughout China. The plain is deficient in minerals, but coal is mined in Shantung, and to the north-east of Tientsin.

Although the plain is one of the most densely populated areas in the world, there are comparatively few towns in it of exceptional size, the most important being Peking and Tientsin in the north, and Shanghai and Hangchow in the south.

Peking, the capital of the country, stands in the centre of a sandy plain, and is the focus of the following routes : (1) Up the Pei-ho ; the town stands north of the river. (2) From Manchuria along the coast and via Tientsin, a route now followed by a railway. (3) From Siberia by the caravan route that passes Urga and traverses the Mongolian desert. (4) From the valley of the Wei and along the base of the Shansi plateau. (5) From Hankow northwards by the recently constructed railway. (6) From Hangchow via the Imperial Canal.

Peking is composed of two portions—a square enclosure to the north, which is the Manchu city, and a rectangular area to the south, which is the Chinese city. Both are surrounded by high, massive walls pierced by gates which are surmounted by towers. Within the Manchu city are the Imperial palaces and many magnificent temples. Some of these temples



Stereograph Copyright.]

[Underwood and Underwood

CAMEL CARAVAN IN LEGATION STREET, PEKING.

are Buddhist, but some belong to the followers of **Confucius**, a philosopher who lived 550-478 B.C. These are the two prevailing religions observed in China, but the latter is merely a moral code and a species of ancestor-worship. In spite of the glory of these temples and palaces, and the wide, straight thoroughfares which cross one another at right angles, the city has a somewhat mean and dilapidated appearance.

Shanghai stands at the mouth of a small tributary, which enters the estuary of the Yangtse on its south side. It forms the port, not only of the basin of the Yangtse, but of much of the Great Plain, owing to the absence of other ports on the shores of the Yellow Sea. The harbour, however, is not deep enough for the largest ocean vessels, and the site is low and unhealthy. Its chief exports are silk, raw cotton, and tea, and there are silk and cotton manufactures in the town. It has a large entrepôt trade; *i.e.*, many goods imported here from different countries are exported again in the same condition. This is due to its large foreign trade and a position which qualifies it for a collecting and distributing

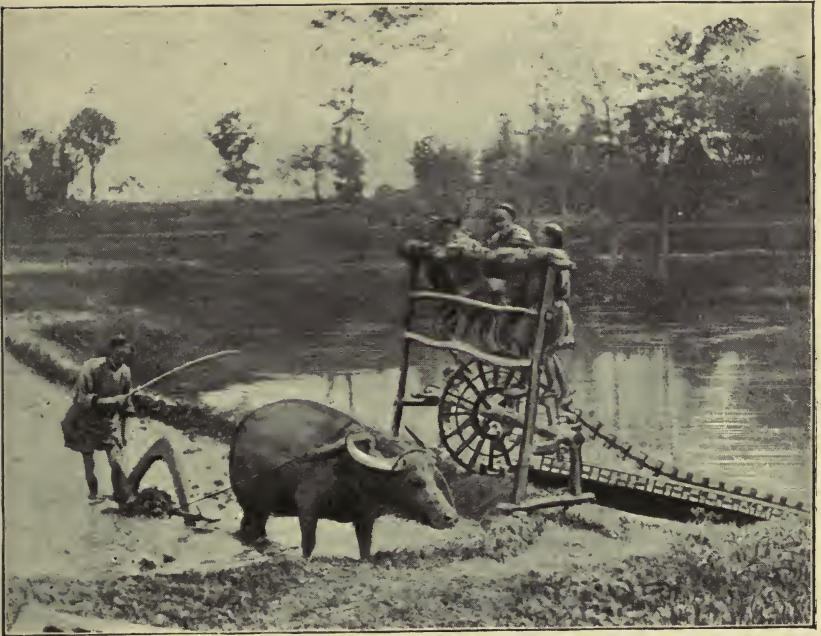
centre. It is now connected by rail to Nanking. **Hangchow** manufactures a good deal of silk, as well as some cotton; but its harbour is only accessible for quite small vessels, and it suffers from the strong tidal bores in the bay.

MIDDLE CHINA.

The **Yangtse** rises on the plateau of Tibet, and at first flows southward. Later it changes its course to an easterly direction, but this is varied by three marked bends towards the north. It is connected with the two large lakes of Tungting and Poyang and many small ones, which to some extent regulate its flow, although the volume of the river varies considerably with the season, and floods sometimes occur. The river forms a magnificent waterway, being navigable for large ocean vessels to Hankow, and for smaller sea-vessels to Ichang—nearly 1,000 miles from its mouth. Above Ichang the river passes through a gorge, and for the next 400 miles navigation is impeded by rapids. Many shallow boats are, however, annually hauled past them, and once or twice a small steamer has made the ascent successfully. The Yangtse has many large tributaries, but those of most commercial importance are the Han, which is a fine navigable river, and the tributaries which cross the Sechwan basin and are useful for irrigation, as well as being navigable in their lower courses.

The Western Highlands.—These form a belt of parallel ranges and gorges which extend over Western Sechwan and Yunnan. The area is drained by the Upper Salwin and Mekong, as well as by the Yangtse and its first large, left-bank tributary. The mountains are clad with forests, and wheat, maize, tobacco, and opium, are produced in the lower areas. **Opium** is the dried juice obtained from the seed-vessel of a kind of poppy, an annual that grows about 2 to 4 feet high, and bears a white or purple flower. From opium are manufactured such narcotic medicines as laudanum and morphia, and the substance is also smoked by many of the Chinese, but with such harmful results that an attempt is being made to restrict its production and to reduce the amount yearly imported from India.

The province of Yunnan is very rich in iron, tin, gold, and precious stones, as well as in copper, which also occurs in South-West Sechwan. Thus, many people find employment in mining, smelting, and metal industries; but still the area is less densely populated than most parts



A WATER BUFFALO PLOUGHING A RICE-FIELD IN CHINA.

The men raise water by turning the wheel with their feet, and thus flood the field.

of China. Communication in all directions is difficult, but some trade passes southward to Tongking, Siam, and Burma, and one route goes due westward from Sechwan to Lhasa in Tibet.

The Basin of Sechwan.—This is an elevated region, though lower than the surrounding land, and on the east it slopes down to the plain of the Middle Yangtse. It lies almost entirely north of the Yangtse, and is crossed by a series of parallel tributaries separated by ridges, which render communication east and west somewhat difficult. The area is sometimes known as the Red Basin on account of its fertile red soil, which enables cultivation to be carried on even high up on the mountain slopes. The climate is hot and rainy in summer, and warm and misty in winter ; but irrigation is required for most crops, and especially for rice.

Rice is generally grown under water, and sometimes in fields that have been soaked with water for months before the grain is sown. In Sechwan the tributaries of the Yangtse east and west of Chengtu are split up into endless channels, from which water can be led as required into

the embanked fields. Rice is sometimes grown at a considerable height, but it is more economical to utilize low lands that can be easily flooded. After the rice is reaped, it has to be separated from the husk, and unhusked rice is known as paddy throughout the East. Other crops grown in this area besides the ordinary cereals and pulses are tea, sugar, opium, and mulberries for silk.

The **tea-shrub** grows best on hill-slopes which allow of good drainage, and prefers a light, rich soil with a good supply of vegetable mould. Though the plant can stand severe frost, it does best in a warm climate, and requires most moisture in summer. It takes three to five years for the shrub to come into full bearing; and as there is a good deal of manual labour connected with picking the leaves at least three times a year, and their preparation for sale, it is only profitably grown where labour is cheap. Some processes in the preparation, as rolling the leaves, can be done by machinery, and this is gradually being introduced into the country. A good deal of inferior tea, composed of coarse leaves and twigs, after being sun-dried, is moistened with rice-water and compressed into the form of bricks. This brick-tea is largely manufactured in Sechwan for sale in Tibet, whither it is conveyed by yaks, mules, and porters. Some of these porters carry as much as 80 pounds, and yet walk fourteen miles a day along a route necessitating constant ascents and descents; while others cover six or seven miles a day with a load of 200 pounds, supported by a frame on the back. (See p. 73.)

The **sugar-cane** requires a rich soil, but demands little attention; for though the canes, which attain a height of 10 to 15 feet, have yearly to be cut to get the sugar, the roots continue to send up fresh shoots for about thirty years. As these shoots become less productive, however, in course of time, in many parts the canes are replanted every few years. After the canes are cut, and crushed to extract the juice, they are used as fuel; while the juice is boiled and treated so that part crystallizes as sugar and part flows away as molasses.

Besides agriculture, silk-weaving and straw-plaiting are important occupations; and mining is another, for the area is rich in coal, iron, and salt. Population is everywhere dense, and the capital of Sechwan—**Chengtu**—is fortunate in its position in the middle of an extraordinarily fertile region. The great drawback to trade is the difficulty in the way of communication, the best outlet being by the Yangtse through the river-port of **Chungking**.

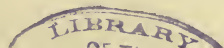


HANKOW.

The Plain of the Middle Yangtse.—This is a fertile, low, alluvial plain studded with lakes, and liable to be partly flooded whenever the melting of the snows on the western highlands or the summer rains cause the river to rise higher than usual. The chief products are cereals, silk, cotton, china grass, and tea, while cattle are reared in the north.

The **cotton-plant** is generally grown as an annual from seed, which is sown in the spring, and is seldom allowed to grow over 3 feet high. It requires a good deal of moisture and heat, though not an excess of either. During the autumn, the balls of fluffy cotton-wool which lie within the seed-vessels are picked; but before the raw cotton can be used it has to be separated from the seeds it envelops. Oil can be extracted from these seeds, and the refuse, pressed into cakes, forms good cattle fodder or can be used as manure. As most of the Chinese wear cotton garments, which are padded for winter use, there is a large home market for the cotton industry, which is being gradually developed by the introduction of machinery.

China grass is a species of nettle, from which a strong fibre is produced, suitable for the manufacture of summer clothing. Important



deposits of **kaolin**, or china clay, formed of decomposed granite, occur east of Poyang, and have given rise to large porcelain works.

Hankow is the great trade centre of this plain, and is one of a group of three large towns at the confluence of the Han and the northern bend of the Yangtse. It thus benefits by water routes leading south-east, south-west, and north-west, and is accessible for ocean vessels. It is also on the railway to Peking, which it is projected to carry on to Canton, and is the centre of a fertile, densely populated area. Its chief trade is in tea and silk, and brick-tea is largely manufactured for export to Tibet and Siberia.

SOUTHERN CHINA.

The Southern Highlands.—The east-to-west direction of the chief ranges of this region hinders communication between the Yangtse and Si-kiang; but the railway which is projected between Hankow and Canton will have the advantage of following two transverse valleys, and about its mid-point of passing through a rich coal-field.

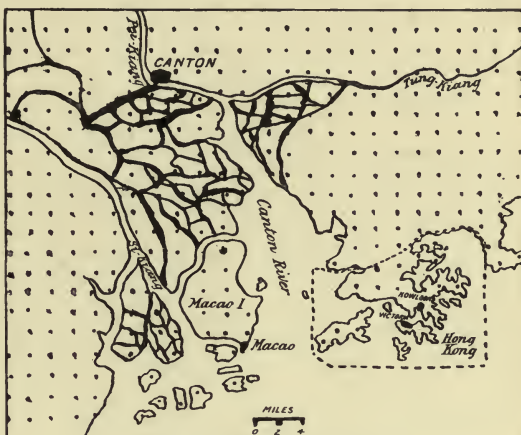
These highlands were originally thickly clad with trees, but the trees are being rapidly cut down. Some forest products, however, are still important, as **camphor**, which is the hardened sap of a tree; and **cinnamon**, which is the bark of the twigs of another; while the inner bark of the mulberry-tree is used for making paper. Perhaps the most valuable vegetable product of the Monsoon region is the **bamboo**, which is used in the construction of innumerable articles. The leaves are also utilized for thatch and matting, and the young shoots cooked for food.

The **Si-kiang** rises in the highlands of Yunnan, and has a fairly direct course eastward to its mouth, where it forms a large delta. The branch of the Si-kiang which passes to the north of this delta is known as the Canton River. The Si-kiang is somewhat impeded by rapids, but still forms a useful waterway.

The Valley of the Si-kiang and coastal plain enjoy warm winters and hot, moist summers. Besides producing tea and silk, the region is well suited for rice and sugar. Large quantities of fish are caught in the river and sea, and coral, tortoiseshell, and salt are obtained along the coast. There are several good ports, but by far the most noteworthy are Canton and Victoria on Hong-Kong.

Canton is situated so as to profit not only by the proximity of the Si-kiang, but by that of rivers from the north and east, which flow into the Canton estuary.

It has thus become a great trade centre for the fertile area around, although its port is not deep enough for large ocean vessels. The Canton River is crowded with boats and rafts, and quite a large population resides thus afloat, and even such occupations as rearing poultry are pursued. The town is surrounded by a high wall, and has a picturesque



ENVIRONS OF CANTON.

The territory enclosed by the dotted line has been leased to the United Kingdom.

appearance, but is rendered unhealthy by its narrow and dirty streets. Metal-work, stone-work, and other industries are carried on, but the place is mainly a great depôt for collecting and exporting tea and silk.

Hong-Kong is an island at the mouth of the Si-kiang, which, with a peninsula on the mainland opposite, belong to the United Kingdom. The chief town—Victoria—has a magnificent harbour, and is a naval as well as commercial station. It carries on a large entrepôt trade with Britain, China, India, and Australia. The town of **Macao**, which also lies at the mouth of the Si-kiang, belongs to Portugal, but has an indifferent port. The large island of Hainan produces timber, but is unhealthy, and the coasts are subject to typhoons.

TRADE OF CHINA.

This is hampered by insufficient means of transport, though the difficulty is gradually being met by the construction of railways. At present, apart from the few railways that exist and the river and canal traffic, goods are either conveyed in small carts and wheelbarrows, or by baggage animals—mainly camels in the north—and by porters. The foreign trade is small in proportion to the size and resources of the country, and is carried on only through certain treaty ports. These are, however, numerous; and as manufacturing industries develop and

means of transport improve, there is no doubt the trade will be greatly increased. Chinese prejudice with regard to foreign trade is also breaking down, and foreigners are learning that Chinese merchants are not only industrious, capable business men, but thoroughly reliable and honest, despite the corruption that exists in the government of the country.

(For commercial statistics, see p. 127.)

THE JAPANESE ISLES.

‘When people ask me, “What is Japan like?” I always tell them it is the willow-pattern plate, only more so. When we first steamed into Nagasaki Harbour I had great difficulty not to scream with delight as I recognized the little hills with dark-green tufts, the pagodas, funny boats, and many other things with which I had been familiar since childhood. Again, Japanese children are exactly like the dolls we know so well, and I never could help laughing at the sight of a troop of these funny little people with their gay garments, fringes of thick black hair, and almond-shaped eyes, pattering along to school on their tiny wooden clogs, with large paper umbrellas firmly clasped in their hands.’—E. COLQUHOUN.

THE Japanese Isles separate the shallow seas—Okhotsk, Japan, and Yellow—from the deep waters of the Pacific, which are particularly deep east of the Kurile Isles and North Hondo. Their arrangement has already been traced to the continuity of the belts of folding that created their mountainous axes (see p. 12). From Yezo one range can be traced passing through Sakhalin, and another through the Kurile Isles and Kamchatka. In North Hondo, ranges run north and south, while the configuration of South Hondo, Shikoku, and Kiushiu reflects the presence of two ranges running north-east to south-west, and separated by the Inland Sea. Further south a range can be traced through the Luchu Isles and Formosa. Many of these mountains are volcanic, and hot springs and earthquakes are characteristic of the region (see p. 12).

The **climate** exhibits the alternation of warm, rainy summers and cold winters, due to the monsoons; and the temperature, though less continental in character than on the mainland, has a wider range than might be anticipated from the insular nature of the area. It is on the average colder than the latitude, judged by a European standard, would suggest.

As the islands extend over many degrees of latitude, the climate naturally varies considerably in different parts, and on a climatic basis they are best grouped in the following manner: (1) The northern isles—*i.e.*, the Kurile Isles and Yezo; (2) Northern Hondo, including the whole of the west coastal belt; (3) South-Eastern Hondo, Shikoku, and Kiushiu; (4) the Lu-chu Isles and Formosa.



Photo]

RICE CULTURE IN JAPAN.

[T. Enami.

The Northern Isles.—Here are great extremes of temperature, and during the long winter the isles are covered with snow. On account of dangerous currents, prevalent fogs, and ice-drifts brought south in winter by the Arctic current, navigation is difficult along the coasts. Sea-fishing is, however, a staple industry, and salmon are caught in the short rivers and edible seaweed collected along the shores.

The mountains are clad with forests of oak, elm, birch, etc., and at one time were the home of many fur-bearing animals now hunted nearly to extinction. A few cereals are raised, and Yezo is rich in coal and sulphur. Population is sparse, but temporarily increased during the fishing season by immigrants from Hondo. The majority of the inhabitants are Japanese, but on Yezo there still exist some remnant of a race called **Ainu**, who are thought to belong to the Caucasian group, and are remarkable for their hairy appearance. The chief town in Yezo is **Hakodate**, which has an excellent harbour.

Northern and Western Hondo.—Here, too, the climate is extreme, owing to the north-west winds of winter, which bring some snow

and rain to the west coast ; while in summer this region is partly cut off from the moderating influence of the monsoon by the mountains to the



Photo]

A BAMBOO FOREST.

[T. Enami.

The jinrickshaw is drawn by a coolie.

south-east. Communication with the mainland is hindered by the stormy nature of the Sea of Japan, and in winter is interrupted on account of the dangerous surf along the coast. The only western port — **Niigata** — has, moreover, a bad bar at the mouth of the harbour. It is therefore through the peninsula of Korea farther south that Japan has been brought most closely in touch with the mainland, though even the Straits of Korea are over a hundred miles across.

The mountains of Central Hondo greatly hinder communication between the

east and west coasts of the island, though a few railways have been carried across. They also narrowly restrict the areas available for cultivation, and render the rivers too rapid, and their channels too choked with the boulders and silt brought down, to be of much use for navigation. Floods are of constant occurrence, and at times work great destruction ; but some of the rivers are of value as sources of water-power. This power has greatly increased in importance since men have been able to convert it into electrical power, which can be easily conveyed and utilized as required. The chief value of the mountains lies in the forests which clothe them, composed of cedars, pines, maples, bamboos, camphor and lacquer trees. The last-mentioned yields the **lacquer** used in the adornment of many Japanese wares ; while the abundance of timber has led to the erection of paper-mills and match-factories. The match industry has naturally been encouraged by the local supplies of sulphur ; and the occurrence of kaolin and of copper



[Keystone View Co.]

GATHERING TEA NEAR KYOTO.

in Central Hondo has given rise to the manufacture of porcelain and metal goods.

All the Japanese isles are deficient in domestic animals, on account of the limited amount of pasture-land, and hence suffer from lack of meat, wool, leather, and dairy produce. Agriculture is restricted chiefly to the valleys and narrow coastal plains, but by dint of careful spade cultivation the yield is good. The soil in many parts is naturally fertile, and is well manured, for which purpose dried fish is largely used. The chief productions of the north are wheat, barley, rice, beans, and mulberries grown for the silkworm.

South-Eastern Hondo, Shikoku, and Kiushiu.—These areas enjoy dry, cool winters and hot, wet summers. The shores are washed by the warm Kuro-shiwo, which raises the temperature of winds sweeping over it. The vegetation is luxuriant, and the beauty of the flowering trees, shrubs, and plants is proverbial. These include cherry and other orchard trees, wistaria, camellia, azalea, hydrangea, chrysanthemum

iris, etc. The lowlands are often devoted to rice in summer and wheat in winter, while the staple crop of the hill-slopes is tea. Silk is widely produced, and some cotton is grown, but not nearly enough to supply the cotton industry.

This industry is carried on chiefly at **Ozaka** and other towns in the fertile plain that borders the northern shore of the Inland Sea. Here the naturally dense population makes labour cheap, and affords a good market. As Ozaka has but a poor harbour, it is largely served by the port of **Kobe**. Coal occurs in north-west Kiushiu, and can be easily shipped from Moji in the north, and from the excellent harbour of **Nagasaki** further south. To the north of Ozaka lies **Kyoto**, the old capital of the country, where stand the palace of former Mikados and numerous Buddhist temples. All the towns along the coastal belt of the Inland Sea are connected by a railway, which runs northward to Tokyo and Yokohama. **Tokyo**, the capital of the country, is favourably situated in the middle of a small fertile plain, and carries on many artistic industries. It has, however, a small port, so most commerce passes through the fine harbour of **Yokohama**.

Formosa possesses a tropical climate and vegetation. A large part of the island is mountainous, and covered with forests, which yield an important crop of camphor. The other chief crops are rice, tea, sweet potatoes, and sugar. The natives of the eastern portion of the island are of Malay stock, and little civilized; those of the west are of Chinese origin. The coasts are dangerous for navigation, and the only fair harbour is at Kilung, near which some coal is worked.

(For commercial statistics *re* Japan, see p. 128.)

QUESTIONS ON CHINA AND JAPAN.

1. Give an account of the waterways of China and their commercial value.
2. How do you account for the fact that, though coal was used as fuel centuries ago in China, and the country possesses some of the richest fields in the world, the relative output is still so small?
3. Name districts in which you think that (1) woollen, (2) iron industries might be developed on a large scale in China. Give reasons for your answer.
4. Contrast the amount of labour required in growing rice and wheat. Which yields the greater amount of food per acre?
5. Discuss the relative advantages of the United States and United Kingdom in competition for Chinese trade.



Photo]

[Bell.

TEMPLE AT KYOTO.

6. Contrast the conditions required for the production of cane and beet sugar, and state the chief districts in which the former is cultivated in Asia and the latter in Europe.
7. Compare and contrast the climate of Japan with that of (1) the United Kingdom (2) China.
8. Name Japanese industries which largely owe their importance to the artistic genius of the people. State the sources from which the raw materials for these industries are derived.
9. To what extent are the conditions favourable for the growth of a silk industry similar to those required for a cotton industry? In what respects will the trade in these commodities differ?

INDIA.

INDIA, excluding Further India, falls into the following natural regions: (1) The northern ranges; (2) the northern plains; (3) the southern tableland; (4) the east coast plain.

Politically it is divided into (1) certain British Provinces under the direct control of the British Crown, which is represented in India by a Governor-General, or Viceroy. The chief provinces are Bengal, Eastern Bengal, Assam, Bombay, Madras, the United Provinces, the Punjab, the North-West Frontier Province, the Central Province, British Baluchistan, and Assam. Burma in Further India is another province of this type. (2) Certain Native States governed by Native Princes, who, however, have no power to make war with foreign or Indian States,

and are expected in essential matters to follow the advice of a resident British official. The chief States are Kashmir, Haidarabad, Mysore, Baluchistan, Rajputana, and Central India, of which the two last comprise many minor States. (3) The independent States of Nepal and Bhutan.

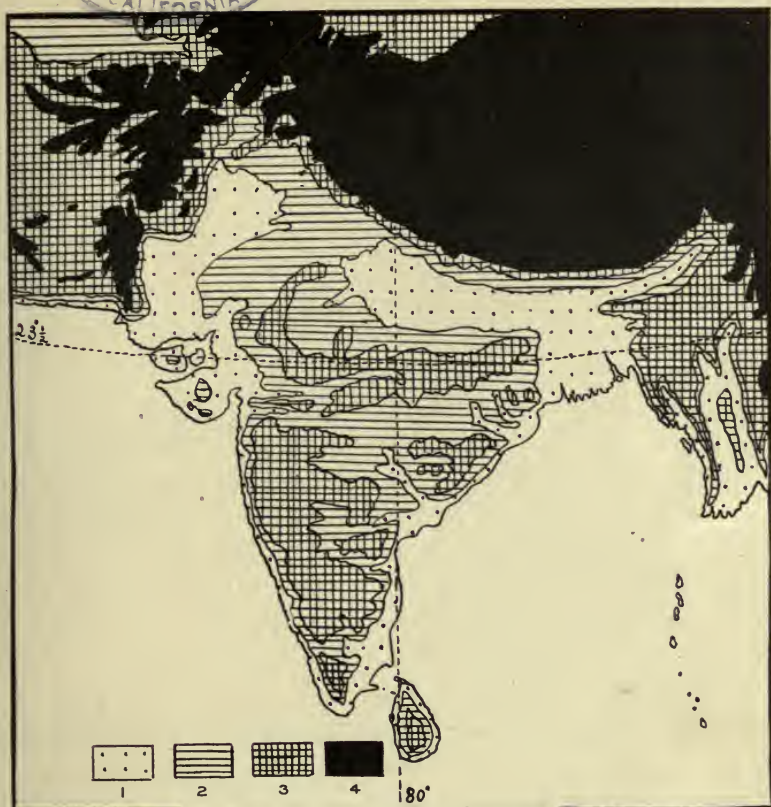
THE NORTHERN RANGES.

'Ridge behind ridge, higher and higher, tier above tier, with ribs of rock and crests of snow and deep-lying valleys of ice-bound splendour.'—SIR MARTIN CONWAY.

'Thickets of bamboo, with graceful light-green foliage, beautify the lower valleys. Higher up the grey ilex, mountain oaks, cedars, drooping silver firs, pines, chestnut, walnuts, and maples, not to mention a hundred trees of lower growth hung with bridal veils of clematis in spring, and festooned with crimson Virginia creepers in autumn, form, with patches of white medlar blossom, a brilliant contrast to masses of scarlet and pink rhododendron.'—SIR W. HUNTER.

The plateaux which flank India on the north and north-west end in a series of lofty ranges descending with steep slopes to the plains of the Indus and Ganges. On the east these turn southwards and traverse the Indo-China peninsula.

The **chief ranges** which appear to radiate from the Pamirs in the north are: (1) The **Hindu Kush**, which is separated from the Koh-i-Baba Range in Afghanistan by the Bamian Pass, leading from the Kabul Valley to that of the Upper Amu. South of the Kabul Valley is the noted **Khaibar Pass**—a defile over thirty miles long, through which a road has been constructed; but the railway has not advanced much beyond the military station of **Peshawar**, which guards this route. (2) The **Sulaiman Range**, which lies between the Khaibar Pass and a westward bend in the plateau of Baluchistan, forming a natural route followed by the railway from the Indus Valley to Quetta. (3) The **Hala Mountains**, which extend as an unbroken wall nearly to the coast. (4) The **Karakorum Range** forms the northern boundary of the Upper Indus Valley, and can only be crossed by very difficult, high passes—the chief being the Karakorum Pass, on the route northwards from Leh to the Tarim basin. This pass is over 18,000 feet high—*i.e.*, about three and a half miles. (5) The **Himalayas** are a series of parallel ranges, extending for a distance of about 1,500 miles between the southward bends of the Indus and Brahmaputra Rivers. Their average height is over three miles, while some of the peaks are over five. Mount Everest



1. Under 600. 2. 600-1,500. 3. 1,500-6,000. 4. Over 6,000. Height in feet.

INDIA: OROGRAPHICAL. (After the Diagram Co.)

(29,000 feet) is considered the highest. The great width also of this mountainous belt has made traffic across it difficult. The chief routes lie across high passes leading northward through Bhutan or from Darjiling. There is also a road which follows the Sutlej River, which breaks across the range and is overlooked by the hill-station of Simla. Goods are carried across by means of yaks, ponies, and even goats and sheep, while human portage is employed to some extent. The value of the total commerce thus carried on is necessarily very small.

The **temperature** varies with the altitude and aspect, the snow-line being at a height of about 16,000 or 17,000 feet on the southern slopes of the Himalayas, and lower on the northern. The snow-fields give rise to great glaciers, which form the source of mighty rivers.

These rivers, in their upper courses, are wild torrents flowing at the bottom of deep, rocky gorges. They are practically unnavigable, but are sometimes crossed by the natives on primitive rafts supported by inflated goat-skins. Transit is easiest in winter, when the streams are frozen.

Here and there, where a valley opens out, or a tributary stream has deposited sediment at its confluence and created an alluvial fan, there is sufficient soil for cultivation and settlement. Elsewhere, agriculture has to depend on the artificial terracing of the mountain-side—a laborious process where walls have to be built and soil carried uphill to a height of several thousand feet. The streams are used largely for irrigation on the slopes of the ranges which flank the Indus plain. The chief crops grown on the terraces and in the high valleys are wheat, millet, pulses, and such fruit-trees as apricot, peach, walnut, and mulberry.

The **rainfall** is heaviest on the southern slopes of the Eastern Himalayas. The lower portions of these are densely clad with forests, the deodar and sal being important timber-trees; while in front of the foothills lies the fever-breeding jungle called the **Terai**—the abode of many wild beasts. A little rubber is collected from the forests in Assam, and tea is cultivated in forest clearings on the mountain slopes in the same district, as well as near the health stations of **Darjiling** and **Simla**.

Between the forests and the snow-line are pastures on which cattle, sheep, and goats are reared in summer. The hair of the Tibet goat, reared in Kashmir, has long made that region noted for its shawls.

Population is sparse, and chiefly distributed in small villages of mud-built huts. **Srinagar**, the capital of Kashmir, in the far-famed vale of that name, stands on the Jehlam, in the midst of a fertile area occupying the basin of an ancient lake. The climate is delightful, and the scenery most picturesque. The Jehlam, which is here crossed by a bridge, is suitable for boating for some distance.

Most of the hill tribes consist of men of small stature but of strong physique, and endowed with industry and courage. In the past, lack of food has sometimes tempted them to raid the lowlands, and their daring, combined with the natural advantages of their mountain home, has made them formidable enemies on these occasions.



By the courtesy of]

['The Rubber Journal.']

INDIARUBBER-TREE (*Ficus Elastica*).

Notice the chisel-cuts, out of which the juice flows and is collected in the cups placed to catch it.

THE NORTHERN PLAINS.

'The plains of the United Provinces rise in gentle undulations away from the river banks, dotted with mud villages and adorned with noble trees. The villages cluster thickly, and the brown masses of mud buildings, flat-roofed, cool and scrupulously clean, are chequered by the purple shadows of the trees under which the

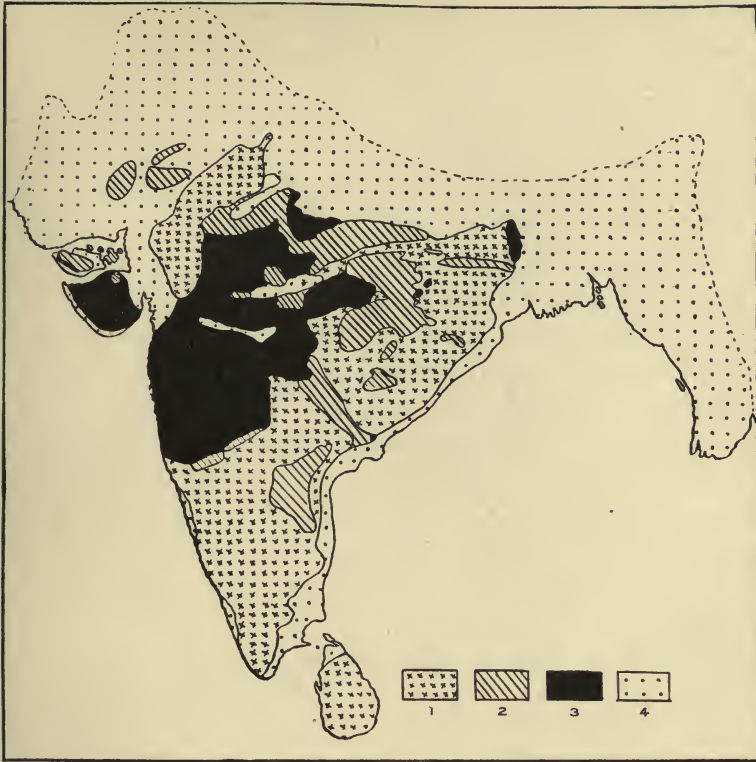
village folk gather in the cool of the evening to gossip and discuss the food prices of the nearest bazaar. Stretching from village to village, and linking together the country communities, runs the great white road, with long avenues of trees giving welcome shade to the creaking bullock-carts, and to the white dust-powdered figure of the wayfarer. Beyond the road and the villages, reaching to the level horizon, are the fields of the peasants, ripe with harvests of millet, sugar, wheat, or Indian corn in the autumn, or stretching away empty in brown folds under the yellow heat haze of early summer. This is what may be seen over thousands of square miles through a great space of North India.'—SIR T. HOLDICH.

'A constant succession of pictures is afforded by the reaches of the river, busy with traffic; the boats with their great sails; the coco-nuts and other palms, huge figs, tamarinds and mangoes, bamboos and plantains; the villages with tanks green with slime and water-lilies; the delicate forms of men and women in scanty but graceful costume—these, and a thousand picturesque details, make Bengal one of the most beautiful countries in India.'—SIR JOHN STRACHEY.

The plain of the Indus is separated from that of the Ganges by a slightly elevated tract of land that rises in the south to the Aravalli Hills. Both plains are remarkable for their flat, monotonous aspects and the fine nature of the alluvial deposits of which they are composed. It is rare that even a pebble of any size is found on these plains.

Climate.—The temperature is high; especially in late spring and summer, and the diurnal and seasonal range is great. In the 'cool season'—*i.e.*, from November to February—the climate is healthy and pleasant. The winds are deflected from their natural directions by the trend of the Ganges Valley, which acts as a sort of flue. In winter, when the north-east trade-wind prevails over the peninsula and Indian Ocean, a north-west wind sweeps across the Punjab and brings it a slight rainfall. In summer, when the south-west Monsoon prevails over the Deccan, a southerly moisture-laden wind crosses the Bay of Bengal, and turns as a south-east wind up the Ganges Valley towards the area of low pressure in Baluchistan. This wind is cooled as it rises in front of the mountains of Assam and the Himalayas, and a copious rainfall results on the mountain slopes and over the Lower Ganges basin. As the wind travels westward, the rainfall diminishes, and is scanty in the Punjab. As the south-west Monsoon does not blow strongly north of the peninsula of Gujarat, the Indus basin is deficient in rainfall, and irrigation is necessary for cultivation.

The importance of the northern plains is mainly due to the great rivers—the Indus, Ganges, and Brahmaputra—that supply them with soil, water, and means of transport.



1. Areas composed of archæan crystalline rocks. 2. Areas of primary and secondary sedimentary rocks. 3. Areas of basalt. 4. Lowlands of recent rocks and alluvial formations.

INDIA : GEOLOGICAL.

THE PLAIN OF THE INDUS.

The Indus.—This rises on the north of the Himalayas, and, after its mountainous career through Kashmir, turns abruptly south-westward and enters the Indian Ocean after a course of about 1,800 miles. Near its mouth the river divides into distributaries, which form intricate channels across its reed-covered delta, fringed with mangrove swamps. The Indus is navigable up to the gorges that extend to the confluence of the Kabul tributary; but, owing to the shifting sand-shoals in its bed, navigation is difficult and of very slight commercial importance. Of the five tributaries which give the name of **Punjab**—*i.e.*, land of five rivers—to the area they traverse, the most important are the Sutlej and the Jehlam, both of which are navigable for considerable distances. The volume of water in the Indus varies considerably; and its surplus waters.

when it floods after the melting of the snows, are run off into canals and used for irrigation. Perennial irrigation canals have been constructed.

Two crops are generally grown every year in India, and sometimes off the same piece of land ; but this is very exhausting to soil not renewed by annual flooding. The lack of manure in many parts of India is a serious drawback. The chief crops grown in winter and reaped in spring in the Punjab are wheat, barley, and pulses—mainly chick-peas. Millet and indigo are grown during the summer and harvested in autumn. There are few trees in the region besides the tamarisks along the riverbanks and some fruit-trees in orchards. Salt is mined in the Salt Hill between the Jehlam and Indus.

The grasslands, which occupy large tracts in Northern Rajputana and Sind—*i.e.*, Northern Bombay—are used for rearing horses, cattle, and other live stock, for which the saline properties of the soil make these districts very suitable. Bullocks or buffaloes are used everywhere in India as animals for draught, and there is therefore a great demand for them.

These grasslands fade into the **Desert of Thar**, which is a sandy region crossed by dunes formed by the action of the wind, and shifting according to its prevailing direction. The same desert conditions exist over **Cutch** and the Rann of that name, which in the dry season is a flat saline waste, and in the rainy season, when, moreover, the south-west wind blows the sea-water inland, a shallow sea. Salt is obtained here by evaporation.

Population is dense in the Northern Punjab, and wherever there are means of constant irrigation. Elsewhere over the plain of the Indus it is scanty, and large areas are uninhabited. **Lahore**, the capital of this province, is on the great route now followed by a railway from Peshawar to Delhi on the Jumna, which connection partly explains the fact that Delhi is politically included in the Punjab, though it naturally belongs to the Ganges basin. Lahore is also connected with the Ganges by a railway, which, before turning south-eastwards, passes **Amritsar**—a town which manufactures shawls and is noted as the headquarters of the religious sect called **Sikhs**. Unlike the majority of the inhabitants of this area, who are Mohammedans, the Sikhs have adopted a purified form of Hinduism. Many of the men have found employment as soldiers in the native army on account of their fine physique and bravery.



INDIA: PHYSICAL AND POLITICAL.

A fourth railway from Lahore leads southward to **Karachi**, the natural port for the Punjab products, and which possesses an excellent harbour.

THE PLAIN OF THE GANGES.

The **Ganges** has a course of about 1,500 miles, and is navigable almost from the base of the Himalayas. Its chief tributary is the Jumna, and the district between these two rivers is intersected by canals supplied with water drawn from their upper courses. Some of these canals are used for navigation as well as irrigation. Many wells also have been sunk in the United Provinces for the sake of irrigation; but the heavier rainfall of Bengal renders irrigation less necessary there.

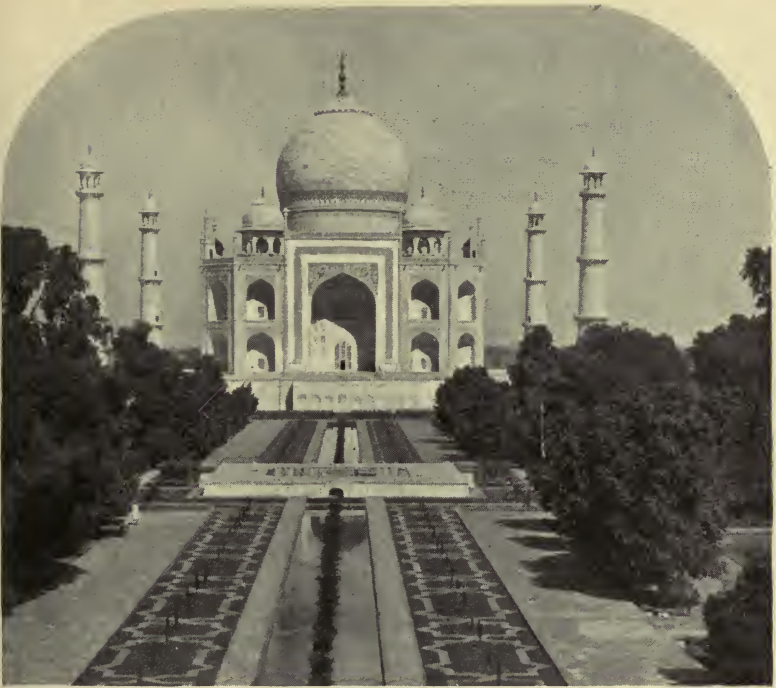
The chief winter crops of the United Provinces and Western Bengal are wheat, barley, maize, pulses, and flax grown for linseed-oil. The summer crops are sugar, indigo, rice, tobacco, and opium. A good deal of sugar is obtained from a species of palm as well as from the sugar-cane. **Patna** is a great collecting centre for rice and opium.

Eastern Bengal is mainly devoted to growing rice and jute, the latter thriving on the sand-banks of the rivers, which are yearly flooded. **Jute** is an annual sown in spring and cut when about 11 feet high. The stems are then submerged in water for at least three weeks, after which the bark can be removed and the fibre separated by mashing and beating. The fibre is used for making sackcloth, and also in the manufacture of carpets and various textiles. It was formerly nearly all exported to Dundee, but now much is used in factories in and near Calcutta. The sacks made there are in great demand on account of the export of cereals from India.

The large delta created by the Ganges and Brahmaputra is a marshy region overgrown with forests of bamboo, coco-nut palms, plantains, and tropical creepers. Its name—**Sundarban**—in fact, means ‘forest.’ The delta is intersected by shifting distributaries in which crocodiles abound, while tigers and other wild animals frequent the jungles. In spite of these drawbacks and the unhealthy climate, the region was formerly densely populated, and has still a fairly large population, mainly subsisting on rice, which can be easily cultivated there.

The fertility of the Ganges basin has caused the whole to be thickly populated, but has also tempted invasion. Prior to the British conquest, the most noteworthy invasions in historic times were those of the Mohammedan Mongols, who founded the Mogul Empire in the sixteenth century; and although the Hindus are now numerically predominant in this area, the Mohammedans still count as a very important factor in social and political life. Both **Delhi** and **Agra** were capitals of the Mogul Empire at different times; and to this fact are due the numerous mosques and mighty palaces and tombs which adorn them. The Indian Mutiny of 1857, which chiefly affected the towns of **Lucknow**—capital of the United Provinces—**Cawnpur** and Delhi, led to the final suppression of the Mogul Dynasty, and the transference of the government of India from the East India Company to the Crown.

To the Hindus the Ganges is a sacred river, and especially sacred is



THE TAJ MAHAL, AGRA.

[Keystone View Co.]

This forms the tomb of the wife of a Mogul Emperor—Shah Jehan—by whom it was erected in 1719.

the point of confluence of the Jumna and Ganges at **Allahabad***—‘the abode of God’—as well as the city of **Benares**, with its ghats or steps leading down to the river, and frequented by pilgrims anxious to bathe in the purifying water. Both cities are diversified by numerous temples dedicated to various Hindu gods, the worship of whom is controlled by the priests called **Brahmins**. Both towns are also railway junctions, and the chief industries are metal-work and other handicrafts, in which the natives show much artistic skill. As a rule, in India occupations are hereditary—*i.e.*, the son follows his father’s trade—and all employed in the same industry form a **caste**, or class forbidden by custom to eat or intermarry with those of other castes. It follows that there is an endless number of castes, with their resulting restrictions, to which natives must conform or suffer social penalties; but this system is gradually breaking down.

* The Hindu name of this city is Prayág.

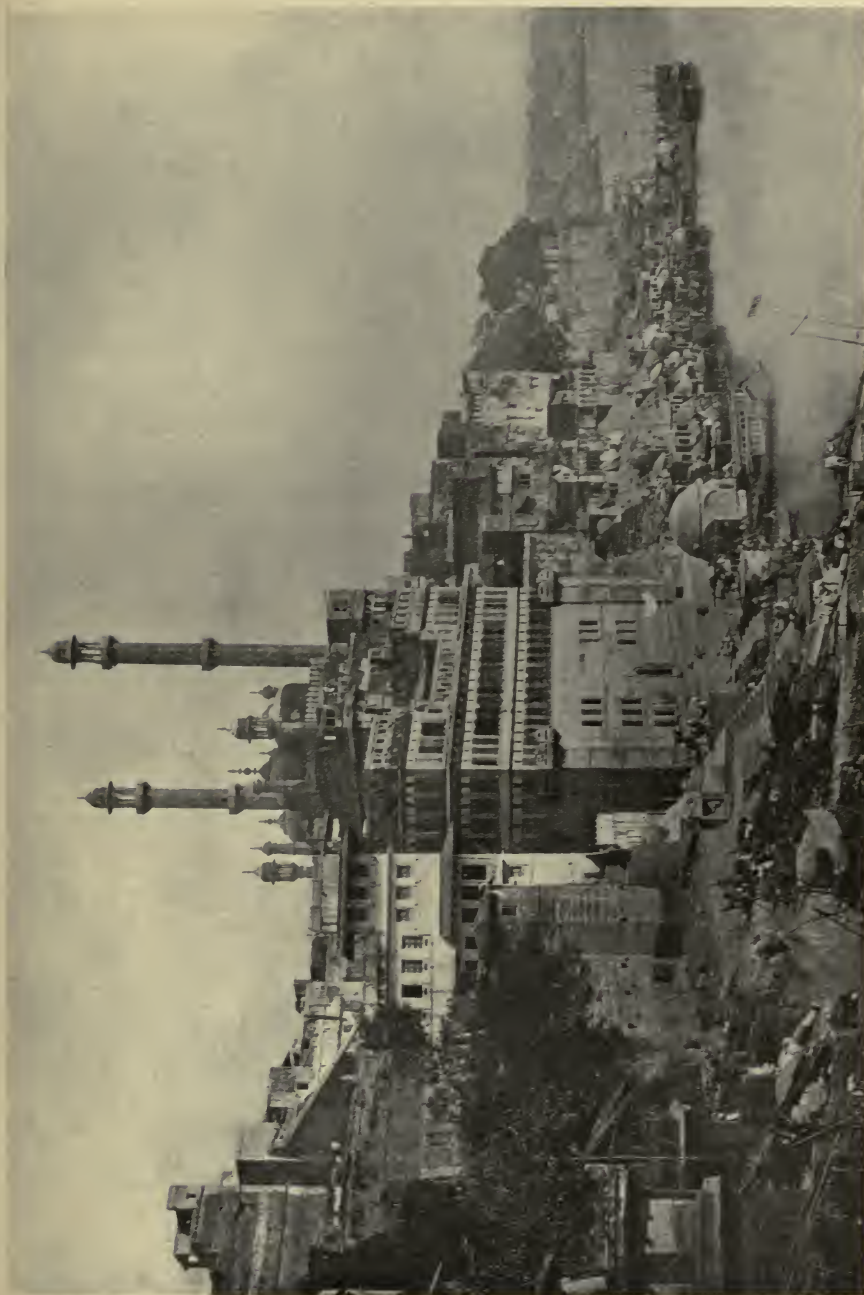
Although there are many large towns in the Ganges basin, the great majority of the natives, here as elsewhere in India, live in scattered villages, composed of huts of mud or matting, according to the resources of the district, and depend on agriculture for their living. The products of this district are forced to find an outlet on the coast, and hence has arisen **Calcutta**, the capital and chief port of the country, in spite of its trying climate and the difficulty of navigating the Hugli, encumbered as it is with shifting shoals. The town has at least one advantage in the proximity of the coal-fields in the Hugli basin—the most productive in India—which has encouraged its jute industry. The Government retires to Simla during the hot season.

The Basin of the Brahmaputra.—This river rises not far from the Indus, but flows in an opposite direction, and breaks through the Himalayas by a series of inaccessible gorges. From the point where it enters Assam to its mouth, it is a broad, navigable sheet of water studded with islands. On account of the heavy rainfall, irrigation is not needed in Assam, and the annual floods renew the soil on which rice and oil-seeds are grown. Much of the area between the river and the tree-clad ranges to the north and south, where tea is cultivated, is a grassy jungle; and the region as a whole is sparsely populated.

THE SOUTHERN TABLELAND.

This occupies the greater portion of the **Deccan**—*i.e.*, peninsular India—and slopes gradually towards the east. The surface is diversified by highland areas separated by generally wide valleys, and is bounded on the east and west by ridges which, viewed from the coastal plains below, appear as ranges, and have been called the Eastern and Western Ghats. Of these, only the **Western Ghats** are of important continuity and altitude, and they form a serious barrier to communication between the western coast and interior, and are very impressive with their steep-sided cliffs and massive flat-topped mountains.

In the north the tableland rises to the **Satpura** and **Vindhya Ranges**, and has an offshoot in the **Aravalli Hills**. In the south it terminates in the group of rounded, grass-covered mountains known as the **Nilgiri Hills**. To the south of these hills, and north of a range that continues the direction of the Western Ghats to the extreme south of the peninsula, occurs the depression called the **Palghat Gap**. This forms



[F. Frith and Co.

BENARES.

a natural route between the east and west coast-plains, and is followed by the railway from Madras to Calicut.

On account of the eastward slope of the land, the chief rivers flow into the Bay of Bengal—*i.e.*, the Mahanadi, Godaveri, Kistna, and Cauvery. These are of very slight use for navigation, on account of the variation in the volume of their water, the torrential nature of their upper courses, and the rapids that occur where they descend in deep gorges from the tableland to the coast plain. The north-eastern part of this region is traversed by the Narbada and Tapti. The **Narbada**, after passing Jabalpur, is navigable for some distance, and passes through the picturesque ravine known as the Marble Rocks. Further west it becomes unnavigable to a point near the head of its wide but shallow estuary. Its lower valley is also of little use as a route, on account of the wild forests clothing the country east of the fertile flats around the Gulf of Cambay. The **Tapti** is not navigable, but its valley forms a better route to the interior, and Surat, at its mouth, has a fair artificial harbour. All the west coast ports, however, save Bombay and the Portuguese settlement of **Goa**, which has two harbours, are difficult of access during the south-west Monsoon season.

Climate.—The temperature of the plateau is moderated by altitude and by its exposure to ocean winds in summer. The south-west Monsoon, forced to rise in front of the Western Ghats, deposits an excessive rainfall on their seaward slopes, and therefore often fails to bring an adequate supply to the central regions of the peninsula. In winter the north-east trade-wind blows as a dry wind over most of the Deccan, but brings a fair rainfall to the Coromandel coast-plain. Unfortunately, even when the total annual fall is fairly heavy, it sometimes occurs in the form of a few torrential downpours, which do great damage and are separated by long periods of drought that cause terrible famines. Irrigation is therefore necessary in most parts; and where the plateau is composed of archæan crystalline rock, this is sometimes secured by constructing dams across the upper courses of the rivers, and so converting these into reservoirs. (See map on p. 99.)

Those areas which are covered with the **black soil** due to the decomposition of basaltic rocks do not, however, stand in such need of irrigation; for this soil, owing to its clayey nature, is able to retain moisture for a long time. It is extremely fertile, and especially suited for growing cotton, on account of the lime it contains. Millet, oil-seeds, and wheat



Photo]

PEPPER PLANTATION.

[G. R. Lambert and Co.

are also cultivated. The port of this region is **Bombay**, a place that has grown considerably since it has been connected by two railways with the interior. The town is situated on an island, has a large, safe harbour, and manufactures cotton goods. It is on the black soil that the best forests of teak occur, but many of these have been ruthlessly cut down or destroyed by fire. Teak is rather hard, and has the advantage of resisting the attacks of various insects which ruin so many kinds of woods in hot countries. Elsewhere the chief timber trees are sal and sandalwood, the latter being confined to the south; and the prevailing crops are different species of millet. Small crops of tea and coffee are grown on the Nilgiri and southern ranges, and pepper along the Malabar coast.



ENVIRONS OF BOMBAY.

The mineral wealth of the plateau has not been fully developed;

both coal and iron occur, but separately, and the latter in widely scattered deposits. Gold is mined in Mysore.

The chief towns of the Deccan are now linked together by railways—*e.g.*, **Poona**, an important military station and manufacturing town on the line from Bombay to Madras; and the walled city of **Haidarabad** capital of the Native State of that name.

THE EAST COASTAL PLAIN.

This tract of low, mainly alluvial land everywhere presents very similar features; but while the northern portion has its rainfall mainly in summer, that of the southern is mainly in early winter. The regularity of the coast-line is broken by the deltas of the rivers, which have been irrigated by canals, and by a series of shallow lagoons that are characteristic also of the south-west coast. A salt-water canal runs parallel to the east coast from the delta of the Godaveri to a point south of Madras.

The coast is fringed with coco-nut palms, and rice is the staple crop, though millet and indigo are also important. The port of **Madras** owes its importance to its fertile, populous hinterland, and an artificial harbour has only been constructed at great expense. The Madras Observatory gives the standard time to India.

The **people of Southern India** are the earliest inhabitants of India of whom we have record, and appear to have been pushed southwards by invasions from the north. They are more darkly coloured than the northern races, and, instead of speaking an Aryan language, speak different languages belonging to a group called **Dravidian**. Most of the inhabitants adopt the Hindu religion, but in so vast an area there are naturally great differences, not only in the religious beliefs, but in the customs, character, and appearance of the people.

(For commercial statistics of India, see p. 128.)

CEYLON.

‘The brown-thatched huts, groups of gaily-clad natives, animals and birds, add life to a scene that baffles description. Garlands and creepers festooned from tree to tree; huge banyans stretching in archways completely over the road, with stems all overgrown with ferns, orchids, and other parasitic plants; here and there a



Photo]

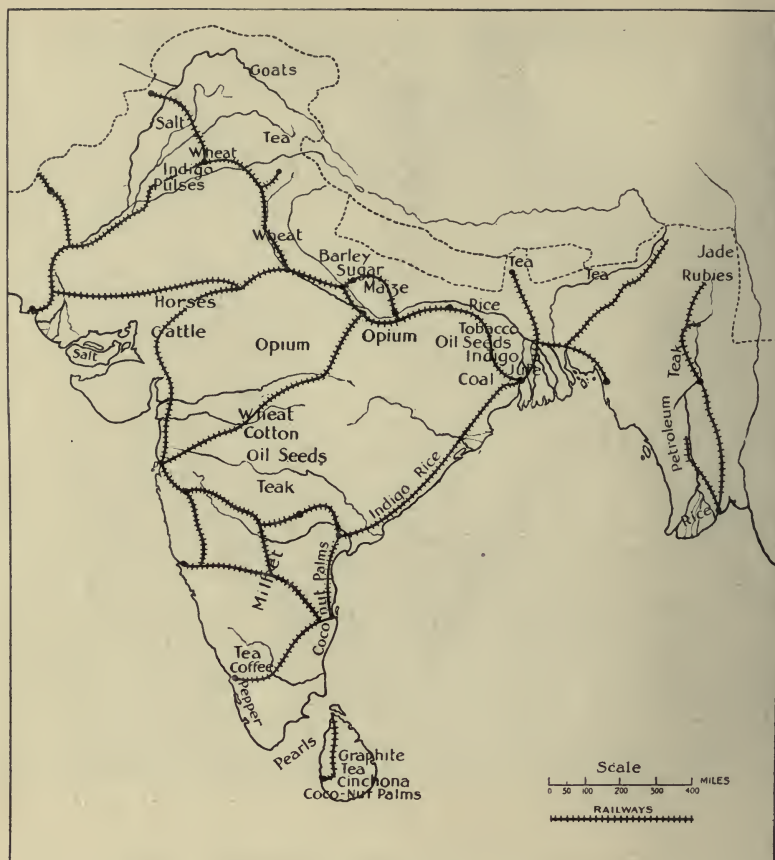
[G. R. Lambert and Co., Singapore.

COCO-NUT PLANTATION.

blaze of the flame-coloured gloriosa, climbing lilies, an undergrowth of exquisite ferns of infinite variety, all crowned by slender palms 90 or 100 feet high—it is vain to attempt a description of such a scene.”—H. W. CANE.

THIS island is separated from India by the **Palk Strait**, which is too shallow for large vessels to navigate; and by the **Gulf of Manaar**, where some pearl-fishing is still carried on. The island is low in the north, but rises steeply towards the centre in the south. The prevailing scenery is extremely picturesque; and, in spite of the more southern latitude, the climate is less trying than on the mainland, on account of exposure to ocean winds. These winds bring moisture from the north-east to the east coast in early winter, and from the south-west to the west coast in summer.

Forests cover a large part of the island, and coco-nut palms fringe the



INDIA: ECONOMIC.

shores. Not only are the **coco-nuts** exported in a natural condition, but the dried kernels, called copra, and the extracted coco-nut oil are also articles of trade. The fibre of the husks also is exported for the manufacture of ropes and matting, and mats are locally made from the palm-leaves. Tea has nearly supplanted the coffee plantations, which succumbed to blight some years ago; and cacao and rubber plantations are increasing on the lower slopes. **Cinchona** trees are cultivated both as shade trees for young tea and cacao plants, and on account of the quinine obtained from their bark—the best medicine for the malarial fever so rife throughout much of India. Other important vegetable products are cinnamon, rice from the lowlands, and the nuts of the areca or betel palm, which are used for chewing in the East. The island



Photo]

[S. H. Reynolds.

FIGURE OF BUDDHA AT AMARAPURA, NEAR MANDALAY, BURMA.

is rich in graphite (plumbago), and some precious stones are still found, though the trade in them has diminished.

The inhabitants are Buddhists, and the ruins of mighty Buddhist temples in the north bear witness to the time when that district was more densely populated than it is now. The capital of the island is **Colombo**, which has a good harbour and is the usual port of call for ocean vessels. Trincomali also has a good harbour, but its position is not so well suited for trade. The **chief exports** of Ceylon in order of value are : Tea, coco-nut products, plumbago, cacao, and areca-nuts.



INDO-CHINA AND EAST INDIES : POLITICAL AND ECONOMIC.

INDO-CHINA.

THIS area, excluding the Malay Peninsula, consists of the following natural regions : (1) The northern highlands and a series of ranges which separate the valleys of the Songkoi, Mekong, Menam, Salwin, and Irawadi; (2) the lower valleys of these rivers, their deltas, and the coastal plains. On account of their fertility these lowlands support most of the inhabitants of the area ; and since communication between them is difficult, they have generally formed separate political units. Those in the east now belong to France, and those in the west to Britain, while the central portion constitutes the independent kingdom of Siam.

The Northern Highlands.—These mountains and the gorges between them are clad with forests, which are not yet fully explored, and form the home of such wild animals as elephants, bears, rhinoceros, buffaloes, and monkeys. The elephants are captured and used as beasts of burden, especially in hauling timber to the rivers, down which it can be floated for export. The most valuable timber is teak, for which Burma is noted. Various useful products are obtained from the forests, as **cutch**, a preparation from the juice of a tree that is used in tanning and dyeing.

The area is rich in rubies, which are chiefly mined in Upper Burma, as well as in sapphires, gold, and jade. Petroleum occurs in the Valley of the Irawadi, and coal is worked in Upper Burma and North-East Tongking. On account of the wild nature of the country, the district where Tongking, Siam, and Burma adjoin is almost independent, and constitutes the Shan States.

The Lowlands.—The great rivers of Indo-China are much impeded by rapids, the best waterway being the Irawadi, which is navigable for some distance north of Mandalay. Boats can ascend the Songkoi to the Chinese frontier, and the Mekong nearly to the point where it forms the



AN ELEPHANT HAULING TEAK LOGS.

boundary of Siam. All the rivers are loaded with sediment, with which they have built great deltas, and are subject to floods at the season of the south-west Monsoon.

These floods are utilized in growing rice, which is the chief export of the area, and forms with fish the main diet of the inhabitants. The fish are not only caught in the sea, but also in the rivers and lakes, especially in the great Lake of Cambodia, which is connected with the Mekong and extends into Siam. Much of the fish is preserved with salt, obtained by evaporation from inland saline swamps and from lagoons round the coast. In many parts the coasts are fringed with mangroves, forests of bamboo and palms.

The majority of the inhabitants of Indo-China belong to the Mongolian family, and the prevailing religion is Buddhism. On account of the swampy nature of the lowlands and danger from floods and wild animals, the native houses are raised on piles. They are sometimes built of timber, but generally constructed of bamboo poles covered and thatched with palm-leaf matting. The following are the political divisions of the area, and the chief towns :

French Indo-China embraces Tongking, Anam, Cochin China, and Cambodia. **Tongking** occupies the basin of the Songkoi, and its chief town—**Hanoi**—is the capital of the whole of French Indo-China. The town is well built, but its harbour is only accessible to small sea-vessels. From it railways have been constructed for some distance along the Valley of the Songkoi, as well as north-eastward towards China and southward along the coastal plain.

Anam embraces the east coastal strip and a mountainous hinterland. Unlike the rest of Indo-China, the rain, brought by the north-east trade-wind, falls here mainly in winter, and this is less favourable to agriculture. The coast towns also suffer from the force of this wind in winter, and occasionally from typhoons; so that navigation is at all times dangerous, and the chief town—**Hué**—is but a poor port. **Cochin China** mainly consists of the delta of the Mekong. The capital—**Saigon**—has a good harbour, and is connected with the Mekong by a navigable channel and a railway.

Siam is partly composed of the valley of the Menam, and partly of a low and rather arid plateau to the east. The capital—**Bangkok**—stands on the Menam, but, owing to a bar at the mouth of the river, is only accessible to small vessels. A railway has been built from the coast to Bangkok, and for some distance eastward.

Burma includes the basins of the Salwin and Irawadi. The capital—**Mandalay**—can be reached from the coast by boat up the Irawadi, or by a railway, which also extends some distance farther north. At Mandalay there is a large walled enclosure containing the old Burmese royal palace, now utilized as a British fort; and on a hill behind the town stands an enormous Buddhist temple with 700 pagodas. The beautiful carving on these palaces and temples demonstrates the artistic genius of the Burmese.

The only important port of Burma is **Rangoon**, which is accessible at high-tide to large ocean vessels. It is situated on an inlet, which is



A GROUP OF SHRINES, SHWE DAGON PAGODA, RANGOON.

connected by a navigable channel with the Irawadi, but only at times of flood. The city consists of several well-built Government offices and private houses, as well as numerous native bamboo huts. Behind it stretches the forest, and about a mile away, on a slight elevation, stands the magnificent Shwe Dagon pagoda, which is yearly visited by many pilgrims. It comprises several temples containing gigantic images of Buddha.

The chief exports of Burma are rice and teak, others being rubber, petroleum, gold, jade, and rubies.



KING'S LANDING-PLACE, MENAM RIVER, BANGKOK.

THE MALAY PENINSULA AND EAST INDIES.

THIS peninsula is joined to Indo-China by the low **Isthmus of Kra**, which it has sometimes been proposed to cut through with a ship-canal. It is separated from Sumatra by the Strait of Malacca, and along the Malay coast of this channel are situated the **British Straits Settlements**. These consist of Province Wellesley, Malacca, and the islands of Singapore, Penang, and Labuan. The isle of **Penang** is rich in tin, and has a good harbour; but **Malacca** has declined in importance on account of the silting-up of its port. The peninsula is divided into many States, of which the southern are under British protection and the northern are claimed by Siam.

Most of the East Indies belong to the Dutch, the chief being Sumatra, Java, Celebes, the Moluccas, and most of Borneo. The northern portion of the last, comprising Sarawak, Brunei, and North Borneo, is British. The Philippines belong to the United States.



JAVAN RHINOCEROS.



[Keystone View Co.]

HUSKING RICE IN LUZON, ONE OF THE PHILIPPINES.

The mountain systems of this region have determined in a marked degree the arrangement and shapes of the islands. One range forms the backbone of the Malay Peninsula, while another traverses Sumatra, Java, and the isles to the east. From Luzon, the largest of the Philippines, parallel chains run southwards through a belt of smaller islands, and reappear in Mindanao. In Borneo, Celebes, and the largest of the Moluccas, ranges radiate from a centre, and in the last two cases form the backbones of peninsulas, and in the first are separated by plains. Active volcanoes exist in most of the islands save Borneo, which rises from a submarine plateau; and this fact seems to point to a former connection with the mainland of Asia. This plateau, or continental shelf, descends rapidly east of Java and Celebes, the descent roughly corresponding with the line drawn by the naturalist Selater to indicate where the change from Asiatic to Australian fauna occurs. West of this line tigers, rhinoceroses, elephants, tapirs, and monkeys, are found, but not to the east.

Climate.—The temperature is reduced in most parts by elevation, and moderated by oceanic winds. All regions experience a fairly heavy rainfall, which is excessive on the western slopes of Sumatra. The seasonal distribution of the rainfall depends on the position of the area with regard to the equator, and its exposure to north-easterly or south-westerly winds (see pp. 23 and 24). Terrible typhoons sometimes occur near the Philippines, when the winds are changing in the equinoctial seasons.

Combined heat and moisture have produced a prolific vegetation everywhere, and dense tropical forests abound. Some of the most valuable forest products are **gutta-percha**—the hardened juice of a tree; **pepper**—the berries of a widespread, climbing plant; **cloves**—the flower-buds of a shrub grown in the Moluccas; **nutmeg** and **mace**—the kernel and its dried covering respectively of the fruit of another shrub common in the Moluccas; and **rattans**—the canes of a species of palm, used in wicker-work, and grown largely in Borneo. Besides these, the coco-nut palm flourishes everywhere, and another species of palm is easily cultivated, from the pith of which sago is prepared.

Of all the East Indies, Java is the most productive—and hence most densely populated—on account of its fertile volcanic and alluvial soil. Its staple crops are coffee, tea, sugar, and cinchona. In Sumatra and Borneo the chief crops are coffee, tobacco, and pepper; and in the Philippines, Manila hemp—a fibre obtained from the leaf-stalks of a plantain—



MALAY HOUSES.

sugar, copra, tobacco, and cigars. A small quantity of coal is produced in the British island of **Labuan**, which is a coaling-station and possesses a good harbour. **Tin** is mined in large quantities in the granite rocks that are found in the Malay Peninsula, and in the Dutch isles of Banka and Billton.

The inhabitants of this region are mainly Malays—*i.e.*, a race of Mongolian origin—and profess the Mohammedan faith. The chief commercial centres are Singapore, Batavia, and Manila. **Singapore** has a magnificent harbour, and, on account of its position at the point of convergence of natural ocean routes, has a large entrepôt trade. It is also an important coaling-station. **Batavia**, the capital of the Dutch East Indies, has a good harbour, and commands the route through the Sunda Strait. **Manila**, the capital of the Philippines, is the best port in the north, and an improved harbour is being constructed.



NUTMEGS.

QUESTIONS ON INDIA, INDO-CHINA, AND THE EAST INDIES.

1. Contrast the climate of the following pairs of Indian towns, and explain the differences : (1) Karachi and Calcutta ; (2) Lahore and Simla ; (3) Bombay and Madras.
2. Correlate the systems of irrigation adopted in different parts of India with the geological structure of the country.
3. Discuss the causes of famines in India, and describe the means taken to prevent their occurrence or mitigate the suffering they occasion.
4. Mention any manufacturing industries carried on in India, and the advantages they enjoy.
5. What are the respective hinterlands of Karachi, Calcutta, Bombay, and Madras ? Explain the great trade carried on by these ports and state the chief exports from each.
6. Describe the distribution of forests in India. What do you consider the work of the Indian Department of Forestry ?
7. Where are tea, coffee, and cacao grown within the Indian Empire ? Compare and contrast the conditions for their cultivation.



Photo]

[G. R. Lambert and Co., Singapore.

SAGO PLANTATION.

8. How do you account for the sparse population of most of Indo-China compared with that of other Monsoon regions ?
9. State the probable exports from Singapore. What effect do you think a canal through the Isthmus of Kra might have on its trade ?
10. Contrast the type of trade carried on between Europe and the East Indies in the seventeenth century and that now in vogue. Give reasons for the change.

TABLES OF MEAN TEMPERATURE AND MEAN RAINFALL OF TOWNS IN ASIA.

The Towns are arranged according to Latitude.

	Singapore.	Batavia.	Colombo.	Trincomalli.	Aden.	Madras.	Bangkok.	Manila.	Hue.	Rangoon.	Poona.	Bombay.
Latitude in degrees, north	1	6	6	8	12	13	13	14	16	16	18	19
Altitude in feet	20	20	40	170	90	20	0	50	20	40	1,850	40
Temperature, January, in degrees F.	80	76	79	78	75	75	76	77	67	75	72	74
Temperature, July, in degrees F.	82	78	81	84	84	85	81	80	83	78	75	81
Mean annual range of temperature	2	2	2	6	9	10	5	3	16	3	3	7
Rainfall in inches, December, January, February	25	33	11	22	1	7	1	4	18	1	1	0
Rainfall in inches, March, April, May	21	19	29	6	2	3	14	6	7	13	2	0
Rainfall in inches, June, July, August	22	8	16	8	0	11	22	39	10	60	17	69
Rainfall in inches, September, October, November	26	12	32	26	0	30	23	28	70	27	10	16
Mean annual rainfall in inches	94	72	88	62	3	51	60	77	105	101	30	85
	Mandalay.	Calcutta.	Canton.	Maskat.	Karachi.	Cherra Poonji.	Allahabad.	Darjiling.	Bushire.	Quetta.	Ichang.	Simla.
Latitude in degrees, north	21	22	23	23	24	25	25	27	28	30	30	31
Altitude in feet	500	20	40	30	50	4,450	310	7,420	26	5,500	500	7,220
Temperature, January, in degrees F.	70	67	55	69	65	?	61	40	57	41	40	40
Temperature, July, in degrees F.	86	83	82	87	84	?	85	61	89	77	80	65
Mean annual range of temperature	16	16	27	18	19	?	24	21	32	36	40	25
Rainfall in inches, December, January, February	0	1	6	4	1	3	2	2	10	5	3	8
Rainfall in inches, March, April, May	7	9	25	1	0	96	1	14	2	3	12	9
Rainfall in inches, June, July, August	14	39	29	0	6	305	28	83	0	1	21	46
Rainfall in inches, September, October, November	13	16	8	1	1	67	9	23	2	1	10	8
Mean annual rainfall in inches	34	65	68	6	8	471	40	122	14	10	46	71

The large figures indicate seasons of heaviest rain.

The Towns are arranged according to Latitude.

	Shanghai.	Lahore.	Baghdad.	Leb.	Beirut.	Peshawar.	Tokyo.	Teheran.	Niigata.	Smyrna.	Kashgar.	Peking.
Latitude in degrees, north	31	31	33	33	33	34	35	35	37	38	39	40
Altitude in feet	0	730	40	11,500	110	1,110	70	3,710	30	26	4,060	120
Temperature, January, in degrees F.	38	55	50	19	57	51	37	36	35	47	21	23
Temperature, July, in degrees F.	82	89	95	64	79	89	75	?	74	80	82	79
Mean annual range of temperature	44	34	45	45	22	38	38	?	39	33	61	56
Rainfall in inches, December, January, February	6	3	6	1	21	3	7	6	17	12	0	0
Rainfall in inches, March, April, May	11	2	3	1	7	4	15	4	12	7	2	3
Rainfall in inches, June, July, August	18	14	0	1	0	4	18	0	16	1	1	19
Rainfall in inches, September, October, November	11	3	1	1	8	2	22	2	23	7	0	4
Mean annual rainfall in inches	46	22	10	4	36	13	62	12	68	27	3	26
	Baku.	Trebizond.	Tashkent.	Tihte.	Polt.	Vladivostok.	Urga.	Irkutsk.	Tomsk.	Tobolsk.	Yakutsk.	Verkhoyansk.
Latitude in degrees, north	40	41	41	41	42	43	47	52	56	58	61	67
Altitude in feet	10	90	1,520	1,340	20	60	4,300	1,540	250	360	330	460
Temperature, January, in degrees F.	39	41	30	34	42	7	-17	-7	-4	-2	-45	-61
Temperature, July, in degrees F.	80	75	82	77	74	67	65	66	68	68	66	59
Mean annual range of temperature	41	34	52	43	32	60	82	73	72	70	111	120
Rainfall in inches, December, January, February	3	10	5	2	15	0	0	3	2	2	2	0
Rainfall in inches, March, April, May	2	8	6	6	9	3	0	2	2	3	2	0
Rainfall in inches, June, July, August	1	7	0	6	23	8	7	8	8	10	6	3
Rainfall in inches, September, October, November	3	11	2	5	19	4	1	4	3	4	3	1
Mean annual rainfall in inches	9	36	13	19	66	15	8	17	15	19	13	4

The large figures indicate seasons of heaviest rain.

AREA AND POPULATION OF THE CHIEF COUNTRIES IN ASIA.

Year of Census.	Country.	Area in 1,000 Square Miles.	Population of Country in Thousands.	Largest City.	Population of City in Thousands.
1906	Siberia*	4,787	6,741	Tomsk†	63
"	Steppes	711	2,797	—	—
"	Turkistan and Trans- Caspian Provinces ..	614	6,144	Tashkent	155
"	Trans-Caucasia	95	6,114	Baku‡	179
"	Total Asiatic Russia ..	6,207	21,796	—	—
A recent esti- mate	Asia Minor and Armenia	265	11,559	Smyrna	201
"	Syria	115	3,675	Damascus	250
"	Mesopotamia	143	1,398	Baghdad	145
"	Turkish Arabian Pro- vinces	170	1,050	Mecca	60
"	Total Asiatic Turkey ..	693	17,682	—	—
An estimate	Arabian Province of Oman	82	800	Maskat	25
A recent esti- mate	Persia	628	9,500	Teheran	280
An estimate	Afghanistan	250	5,000	Kabul	140
"	China Proper	1,532	407,253	Canton§	900
"	Manchuria	364	16,000	Mukden	150
"	Mongolia	1,368	2,600	Urga	12
"	Tibet	463	6,500	Lhasa	15-20
"	Chinese Turkistan ..	550	1,200	Kashgar	50
"	Total Chinese Empire ..	4,277	433,553	—	—
"	Korea	71	10,000	Seoul	196
1903	The Japanese Empire ..	161	49,655	Tokyo	1,818
1901	The Indian Empire ..	1,767	294,361	Calcutta¶	1,026
"	Ceylon	25	3,578	Colombo	158
An estimate	Siam	212	6,687	Bangkok	400-600
1901	French Indo-China ..	256	18,230	Hanoi	150
1900	Java	50	29,746	Batavia	116
"	Total Dutch East Indies	736	36,000	—	—
1903	The Philippines	128	7,635	Manila	220

* Almost 16 per cent. of the total population of Siberia belong to the Mongolo-Tatar race, and the rest to the Caucasian. Nearly 5 per cent. of the population are exiles from Russia.

† Irkutsk, 51,000.

‡ Tiflis, 159,000.

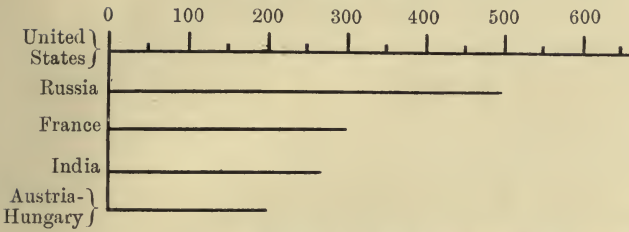
§ Singan and Siangtan are doubtfully credited with a million each; Tientsin from 750,000 to 900,000; Chengtu, 800,000; Peking, 700,000; Chungking, 700,000; Shanghai, 650,000.

|| Ozaka, 996,000.

¶ Bombay, 776,000; Madras, 509,000.

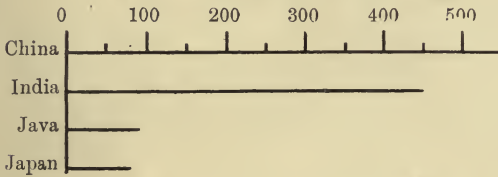
PRODUCTION OF WHEAT IN MILLION BUSHELS:

Average annual yield for 1901, 1902, 1903.



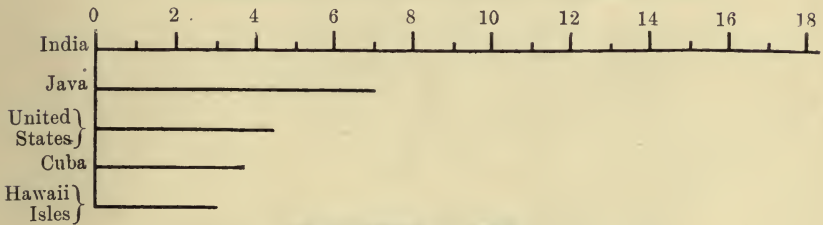
PRODUCTION OF RICE IN MILLION CWTs.:

Average annual yield for recent years.



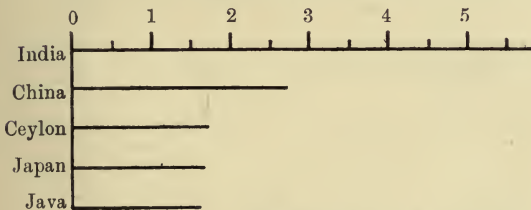
PRODUCTION OF CANE-SUGAR:

Value of the average annual yield for 1901, 1902, 1903, in million pounds.



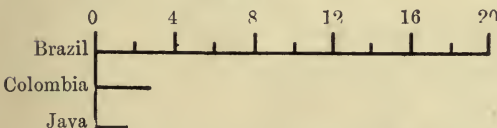
PRODUCTION OF TEA:

Value of the average annual yield for 1901, 1902, 1903, in million pounds.



PRODUCTION OF COFFEE:

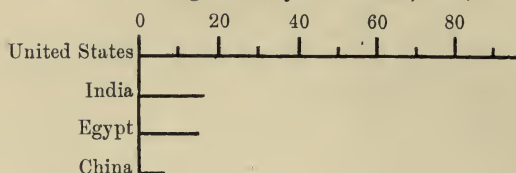
Value of the average annual yield for 1900, 1901, 1902, in million pounds.



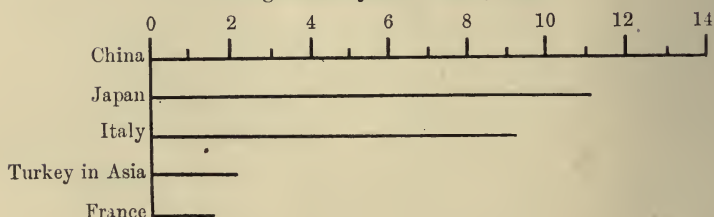
The statistics on which these diagrams are based have been taken from 'Bartholomew's Atlas of the World's Commerce,' which students would do well to consult for further information.

PRODUCTION OF COTTON :

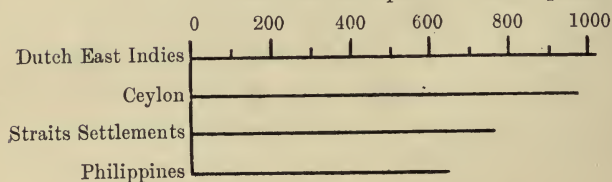
Value of the average annual yield for 1901, 1902, 1903, in million pounds.

**PRODUCTION OF SILK IN MILLION POUNDS :**

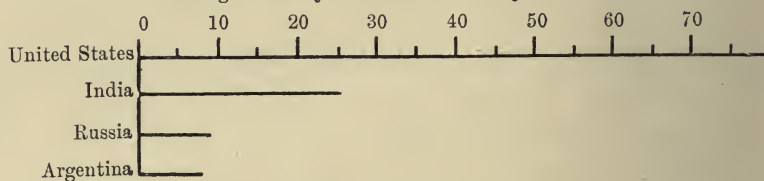
Average annual yield for 1903, 1904.

**EXPORT OF COPRA :**

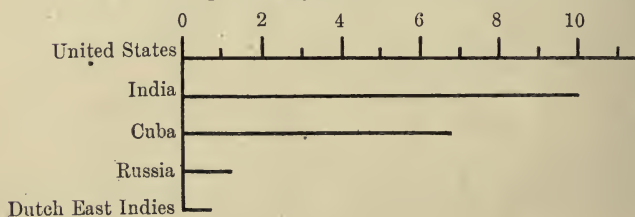
Value of annual export in thousand pounds.

**PRODUCTION OF OIL-SEEDS IN MILLION CWTs. :**

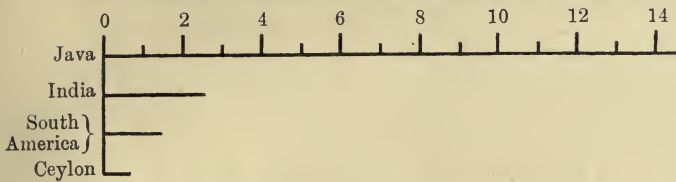
Average annual yield for three recent years.

**PRODUCTION OF TOBACCO :**

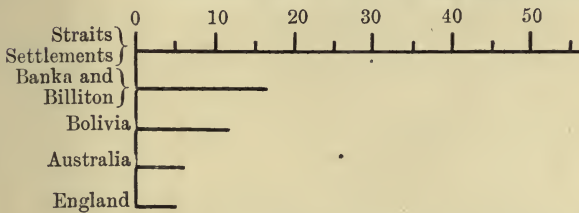
Value of average annual yield for 1900, 1901, 1902, in million pounds.



PRODUCTION OF CINCHONA, IN MILLION POUNDS, IN 1903 :

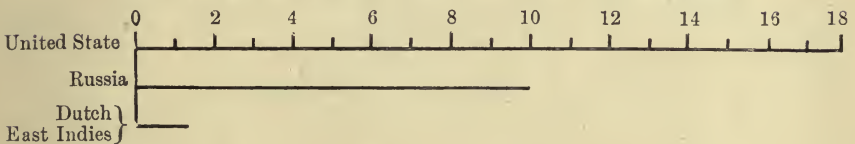


PRODUCTION OF TIN, IN THOUSAND TONS, IN 1904 :



PRODUCTION OF PETROLEUM :

Value of average annual yield for 1902, 1903, 1904, in million pounds.



COMMERCIAL STATISTICS.

CHINA.

Principal Imports in 1906.	Value in Million £.	Principal Exports in 1906.	Value in Million £.
Cotton goods.. .. .	24	Silk (raw and manufactured)	11
Opium	5	Tea	4
Sugar.. .. .	5	Raw cotton	2
Metals	3	Beans	2
Oil	2	Hides, skins, and furs	1
Rice	2	Straw braid	1
Coal and coke	1		
Total value	67	Total value	39

Principal Counteies of Origin in 1906.	Value in Million £.	Principal Destinations in 1906.	Value in Million £.
Hong-Kong	26	Hong-Kong	13
United Kingdom	13	Japan	5
Japan.. .. .	10	United States	3
United States	7	France	3
India	5	United Kingdom	2

COMMERCIAL STATISTICS—*continued.*

JAPAN.

Principal Imports in 1905.	Value in Million £.	Principal Exports in 1905.	Value in Million £.
Raw cotton	11	Raw silk and silk waste ..	8
Rice	5	Cotton yarn and manufac- tures	5
Iron-work	3	Matches	2
Woollen manufactures ..	3	Silk manufactures	1
Machinery	2	Camphor	1
Sugar	1	Coal	1
Total value in 1906 ..	42	Total value in 1906 ..	42
Principal Countries of Origin in 1906.	Value in Million £.	Principal Destinations in 1906.	Value in Million £.
United Kingdom	10	United States	12
United States	7	France	4
India	6	China	3
China	6	Hong-Kong	3
Germany	4	United Kingdom	2

INDIA.

Principal Imports in 1907.	Value in Million £.	Principal Exports in 1907.	Value in Million £.
Cotton manufactures ..	27	Jute (raw and manufactured)	28
Metals and hardware ..	8	Cotton (raw and manufactured)	23
Machinery and railway plant	7	Rice	12
Sugar	6	Hides	10
Oils	2	Oil-seeds	9
Provisions	2	Tea	6
Silk (raw and manufactured)	1	Opium	6
Chemicals	1	Wheat	5
Apparel	1	Lac	2
Woollen goods	1	Raw wool	2
Total value	108	Total value	121
Principal Countries of Origin in 1907.	Value in Million £.	Principal Destinations in 1907.	Value in Million £.
United Kingdom	48	United Kingdom	31
Germany	4	Germany	13
Belgium	3	China	12
Austria-Hungary	2	United States	10
Japan	2	France	8

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